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# THE RICE INSTITUTE

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OCTOBER TENTH, ELEVENTH, TWELFTH  
NINETEEN HUNDRED  
AND TWELVE

---

VOLUME ONE







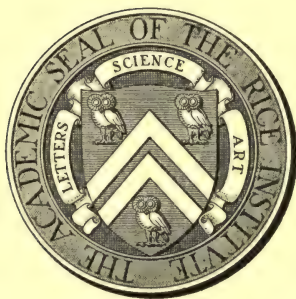


*From an Original Oil Painting of William M. Rice  
at the age of 34 years,  
Presented by Wm. M. Rice, Jr., to the Institute.  
December, 1908.*

# THE BOOK OF THE OPENING OF THE RICE INSTITUTE

BEING AN ACCOUNT IN THREE VOLUMES OF AN  
ACADEMIC FESTIVAL HELD IN CELEBRATION OF  
THE FORMAL OPENING OF THE RICE INSTITUTE,  
A UNIVERSITY OF LIBERAL AND TECHNICAL  
LEARNING FOUNDED IN THE CITY OF HOUSTON,  
TEXAS, BY WILLIAM MARSH RICE AND DEDICATED  
BY HIM TO THE ADVANCEMENT OF LETTERS,  
SCIENCE, AND ART

VOLUME I



HOUSTON, TEXAS  
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INSCRIBED BY SPECIAL PERMISSION TO  
THE HONORABLE WOODROW WILSON,  
PH.D., LITT.D., LL.D., MAN OF LETTERS,  
LEADER OF MEN, THIRTEENTH PRESI-  
DENT OF PRINCETON UNIVERSITY,  
AND THE TWENTY-EIGHTH PRESIDENT  
OF THE UNITED STATES OF AMERICA





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THE PRESIDENT AND TRUSTEES OF  
**THE RICE INSTITUTE**

OF LIBERAL AND TECHNICAL LEARNING

FOUNDED IN THE CITY OF HOUSTON TEXAS BY

**WILLIAM MARSH RICE**

AND DEDICATED BY HIM

TO THE ADVANCEMENT OF LETTERS SCIENCE AND ART

HAVING RESOLVED TO OBSERVE THE FORMAL OPENING  
OF THE NEW UNIVERSITY

WITH APPROPRIATE ACADEMIC CEREMONIES

AND TO INVITE DELEGATES

FROM THE UNIVERSITIES COLLEGES SCIENTIFIC FOUNDATIONS

AND LEARNED SOCIETIES OF THE WORLD

TO BE PRESENT AT THE EXERCISES ATTENDING

THE INAUGURATION OF THE EDUCATIONAL PROGRAMME OF THE INSTITUTION

IT THEREFORE BECOMES MY PRIVILEGE

MOST RESPECTFULLY TO REQUEST

**The University of Paris**

TO SEND A REPRESENTATIVE

OF THAT DISTINGUISHED SOCIETY OF SCHOLARS

TO BE THE GUEST OF THE RICE INSTITUTE

THURSDAY FRIDAY AND SATURDAY

THE TENTH ELEVENTH AND TWELFTH DAYS OF OCTOBER

NINETEEN HUNDRED AND TWELVE



*Edgar Dainton*

PRESIDENT

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DELEGATES OF UNIVERSITIES, COLLEGES,  
AND LEARNED SOCIETIES,  
IN THE ORDER OF SENIORITY OF CHARTERS  
UNDER WHICH DEGREES  
ARE CONFERRED



L'UNIVERSITÉ DE PARIS

A L'INSTITUT RICE

---

MONSIEUR LE PRÉSIDENT,

MESSIEURS,

*L'Université de Paris envoie son salut & ses vœux à votre jeune Institut. Conviée à vos fêtes d'inauguration, elle est heureuse de s'associer à vos réjouissances & de vous adresser ses cordiales félicitations pour l'œuvre que vous avez si brillamment réalisée.*

*Les souhaits que nous formons pour la prospérité de votre Institut reçoivent une chaleur particulière de la sympathie séculaire qui existe entre le peuple français & le peuple américain. Les inoubliables souvenirs qui unissent les deux grandes Républiques font battre nos cœurs d'un même désir de justice, de liberté, de progrès.*

*L'idée de liberté, l'idée de progrès ont présidé à la fon-*

dition de votre Institut. C'est en 1891 que William Marsh Rice, natif du Massachusetts, mais fixé à Houston depuis de longues années, fit part à quelques amis choisis du désir qu'il avait de doter sa ville adoptive d'un Institut où seraient enseignés les lettres, les sciences & les arts. Il souhaitait que toute préoccupation politique & tout esprit de secte fussent exclus de cet Institut, qui ne devait être animé que par le désir pur de la recherche & du travail. Il forma un noyau constitué par une demi-douzaine de trustees. Dans les années qui suivirent, la mort fit dans les rangs des trustees des vides que des élections comblèrent à mesure. L'Institut Rice s'élabora dans les conversations de ces collaborateurs de la première heure.

En 1900, après la disparition de William Marsh Rice & une fois en possession des dix millions de dollars attribués à la fondation par le généreux donateur, les trustees s'adjoignirent le professeur Edgar Odell Lovett, de l'Université Princeton, auquel je suis personnellement heureux d'apporter le salut de l'Université de Paris.

Le Président Lovett a consacré tous ses efforts à la tâche importante qui lui était confiée. Il a visité les principaux établissements d'enseignement scientifique du monde, & il a pu établir avec compétence & en toute connaissance de cause les plans de votre Institut. Vos architectes ont été pour lui d'intelligents & précieux

collaborateurs. S'inspirant des édifices du Vieux Monde méridional, ils ont su obtenir un ensemble tout à la fois adapté aux nécessités de l'enseignement & de l'hygiène & fait pour le plaisir des yeux.

En harmonie avec votre climat, les lignes les plus gracieuses des architectures méditerranéennes se retrouvent ici. Vous avez des cloîtres italiens encadrant de délicieux jardins ornés de longs cyprès, vous avez de blanches tours arabes aux toits plats, un campanile, des pelouses & des bassins dessinés à la manière décorative & nette des artistes jardiniers de la Renaissance. Les marbres délicatement teintés de vos montagnes, le granit du Texas mettent dans l'ensemble une note somptueuse & colorée, & sur le tout étincelle votre beau ciel.

Vous avez de l'espace, & vos Universités s'édifient & se développent sur des terrains presque vierges. C'est de quoi pourraient vous envier les vieilles Universités du Vieux Monde; & bien que l'Université de Paris, qui m'envoie vers vous, ne soit plus confinée au quartier Latin, sur le flanc de la colline Sainte-Genève, bien qu'elle ne soit plus toute à Paris & qu'elle possède, en pleine campagne & jusque sur les rivages de la Méditerranée & de l'Océan, des Laboratoires, des Observatoires, des Instituts techniques, — nous avons néanmoins beaucoup à apprendre dans les Universités américaines dont votre Institut offre un modèle si intéressant; c'est un

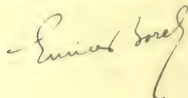
*aveu que la plus ancienne Université du monde doit à la plus récente, comme un hommage à votre esprit pratique & à l'ardeur de votre zèle scientifique. Elle fait cet aveu sans confusion, de même qu'à votre berceau elle vient non pas comme une sée jalouse, mais comme une aïeule bienveillante, vous souhaiter, avec une cordiale bienvenue, un long & glorieux avenir.*

*Paris, le 10 octobre 1912.*

Le Vice-Recteur,  
Président du Conseil de l'Université de Paris,



Le Professeur,  
Délégué de l'Université de Paris,





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FROM THE VICE-CHANCELLOR.

BRASENOSE COLLEGE,  
OXFORD.

July 11, 1912.

My dear Sir,

I beg to thank you for your kindness in inviting this University to send a delegate to the opening of the Rice Institute in October next. I much regret that as the Vacation is now begun there will be no opportunity of bringing the matter before the Council of the University before the beginning of next Term, when it will be too late to appoint a delegate. I am very sorry that we are, therefore, debarred from accepting your kind invitation.

Thanking you for your courtesy, and expressing on behalf of this University our congratulations and good wishes, I have the honour to remain,

Your obedient servant,

*C. W. B. B. B.*

The President of the Rice Institute.



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*American Electrochemical Society*

Professor Eugene Paul Schoch

*Clark College*

Dr. Alexander Caswell Ellis

*General Education Board*

Dr. Harry Pratt Judson

*College of Industrial Arts*

President William Bennett Bizzell

*The South African School of Mines and Technology*

Hennen Jennings, Esq.

*Germanistic Society of America*

Professor William Henry Carpenter

*Dropsie College for Hebrew and Cognate Learning*

President Cyrus Adler

# BOOK OF THE OPENING

## LIST OF DELEGATES

### *University of Florida*

President Albert Alexander Murphree

### *The Conference for Education in Texas*

Secretary Lee Clark

### *Oklahoma State Department of Education*

Superintendent Robert Harrison Wilson

### *American Nature Study Society*

Secretary Elliot Rowland Downing

### *Oklahoma College for Women*

President James Burnette Eskridge

### *American Federation of Arts*

Mrs. Jennie Scott Scheuber

Professor William Woodward

### *University of the Philippines*

Frank Russell White, Esq.

### *Organization for the Enlargement and Extension by the State of Texas of its Institutions of Higher Education*

Robert Lynn Batts, Esq.

### *Reed College*

President William Trufant Foster









PROGRAM  
OF THE FORMAL OPENING OF  
THE RICE INSTITUTE

A UNIVERSITY  
OF  
LIBERAL AND TECHNICAL LEARNING  
FOUNDED IN THE CITY OF HOUSTON TEXAS BY  
WILLIAM MARSH RICE  
AND DEDICATED BY HIM TO THE  
ADVANCEMENT OF LETTERS SCIENCE AND ART

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THURSDAY FRIDAY AND SATURDAY  
THE TENTH ELEVENTH AND TWELFTH DAYS OF OCTOBER  
NINETEEN HUNDRED AND TWELVE



EDGAR ODELL LOVETT: PRESIDENT  
THE BOARD OF TRUSTEES  
JAMES ADDISON BAKER: CHAIRMAN  
JAMES EVERETT McASHAN: VICE-CHAIRMAN  
EMANUEL RAPHAEL: SECRETARY BENJAMIN BOTTS RICE: TREASURER  
WILLIAM MARSH RICE JR. CESAR MAURICE LOMBARDI  
EDGAR ODELL LOVETT

# THE RICE INSTITUTE

THURSDAY, OCTOBER 10, 1912

8:30 A.M. At the Bender Hotel an Informal Breakfast to the Lecturers, Delegates, and other Guests by the Trustees of the Institute

10:30 A.M. In the Faculty Chamber of the Institute read or presented by title the Inaugural Lectures of

*Professor Rafael Altamira y Crevea, of Madrid, Spain*

The general ideas in the history of human progress. Their application to the political institutions of society. Their illustration in the Spanish backgrounds of American civilization

*Professor Hugo de Vries, of Amsterdam, Holland*

The ideals of a naturalist. Mutations in heredity. Geographical botany. Modern cytological problems

*Professor John William Mackail, of London, England*

Three lectures on the task and function of poetry in modern life

*Professor Frederik Carl Størmer, of Christiania, Norway*

Three lectures on recent developments in cosmical physics, with special reference to the theory of magnetic storms

1:00 P.M. At the Banquet Hall of the City Auditorium a Luncheon in honor of the Guests of the Institute by the Mayor and the Commissioners of the Municipal Government of the City of Houston. Responses by several delegates to addresses of welcome by the Governor of Texas, the Mayor of Houston, and the Chairman of the Board of Trustees of the Institute

3:00 P.M. In the Faculty Chamber of the Institute read or presented by title the Inaugural Lectures of

## BOOK OF THE OPENING

### *Professor Emile Borel, of Paris, France*

Une conférence sur les théories moléculaires et les mathématiques. Trois leçons sur la théorie des séries divergentes et ses applications à la définition des fonctions monogènes

### *Senator Benedetto Croce, of Naples, Italy*

Il problema dell' arte e della critica—Quattro lezioni:—"Che cosa è l'arte?,, Pregiudizii intorno all' arte. Il posto dell' arte nello spirito e nella società umana. La critica e la storia dell' arte

### *Professor Sir Henry Jones, of Glasgow, Scotland*

Three lectures on philosophical landmarks: being a survey of the recent gains and the present problems of reflective thought

### *Privy Councilor Baron Dairoku Kikuchi, of Tokyo, Japan*

Three lectures on the introduction of Western learning into Japan

5:00 P.M. In the Academic Court of the Administration Building an Informal Garden Party at the conclusion of the lectures of the afternoon

8:30 P.M. At the Majestic Theater a popular illustrated Lecture on the Ideals of a Naturalist, by Professor Hugo de Vries, of the University of Amsterdam

9:30 P.M. At their home, 1416 Main Street, a Reception in honor of the Guests of the Institute by Mr. and Mrs. James Addison Baker

FRIDAY, OCTOBER 11, 1912

8:30 A.M. At the Bender Hotel an Informal Breakfast tendered the Guests of the Institute by the President and Directors of the Houston Chamber of Commerce

## THE RICE INSTITUTE

10:30 A.M. In the Faculty Chamber of the Institute read or presented by title the Inaugural Lectures of

*Privy Councilor Professor Wilhelm Ostwald, of Leipsic, Germany*

Das System der Wissenschaften. Erfinder, Entdecker und Organisatoren. Die Prinzipien der Erziehung. Die Grundbegriffe der Chemie

*The late Professor Henri Poincaré, of Paris, France*

Three lectures on the philosophy of the sciences

*Professor Sir William Ramsay, of London, England*

Three lectures on transmutation: some deductions from modern views concerning atoms and molecules

*Professor Senator Vito Volterra, of Rome, Italy*

A memoir in appreciation of the mathematical work and scientific influence of Henri Poincaré. Three lectures on the progress of science, in particular its advancement in Italy

1:00 P.M. At the Thalian Club a Luncheon in honor of the Guests of the Institute by Mr. and Mrs. Jonas Shearn Rice

3:00 P.M. At the Majestic Theater a Concert by the Kneisel Quartet of New York to the Guests and Friends of the Institute by the Trustees

5:00 P.M. At their home, "The Oaks," after the Matinée Concert, a Garden Party to the Guests of the Institute by Mr. and Mrs. Edwin Brewington Parker

8:30 P.M. At the Institute, in honor of the Inaugural Lecturers, a Chamber Concert by the Kneisel Quartet in the Faculty Room, to be followed by a Supper at the Residential Hall Commons

## BOOK OF THE OPENING

SATURDAY, OCTOBER 12, 1912

9:30 A.M. From the Residential Hall a Procession of the Delegates and Guests in academic costume to the Academic Court of the Administration Building. Inaugural poem by Dr. Henry van Dyke and dedicatory addresses by the Chief Justice of the Supreme Court of Texas, the Bishop of Tennessee, and the President of the Institute

12:30 P.M. At the entrance to the South Wing of the Residential Hall a photograph of the assembled Lecturers and Delegates

1:00 P.M. At the Institute Commons a Luncheon to the Guests of the Institute. Congratulatory addresses from universities at home and abroad, and from learned societies, foreign and national

4:00 P.M. At the Houston Country Club a Farewell Reception by Mr. and Mrs. Edgar Odell Lovett

6:30 P.M. From the Houston Country Club a special train to convey the Guests of the Institute to Galveston to receive the hospitality of the Hotel Galvez at the hands of the Trustees of the Institute

8:00 P.M. At the Hotel Galvez a Shore-supper and Smoker

# THE RICE INSTITUTE

SUNDAY, OCTOBER 13, 1912

8:00 A.M. At the Hotel Galvez Breakfast

9:30 A.M. Special train from Galveston to Houston

11:00 A.M. In the City Auditorium a Religious Service  
with Sermon by the Rev. Dr. Charles Frederic Aked,  
of San Francisco



UNIVERSITY OF CAMBRIDGE.



St John's College Lodge  
Cambridge  
22 August 1912

Dear Sir

I regret to say that it has been found impossible to get a delegate from the University of Cambridge to attend at the Inauguration Ceremony of the William M. Rice Institute on the 10th 11th and 12th October next.

The reason is this: our full working Term will then have commenced and all our resident body will then be engaged in their regular official duties.

I much regret this, but under the conditions of our life here no other decision was possible.

I am

your obedient servant

R. F. Scott

Vice-Chancellor of  
the University of Cambridge

The President

The William M. Rice Institute  
Houston, Texas, U.S.A.



ADDRESSES OF  
WELCOME AND RESPONSES  
AT A LUNCHEON GIVEN AT THE  
CITY AUDITORIUM  
BY THE MUNICIPAL GOVERNMENT  
OF THE CITY OF HOUSTON



ADDRESSES OF WELCOME AND RESPONSES AT A  
LUNCHEON GIVEN AT THE CITY AUDITORIUM  
BY THE MUNICIPAL GOVERNMENT OF THE CITY  
OF HOUSTON

MAYOR RICE: *Ladies and Gentlemen*—This day marks an epoch in the history of our city. As head of the municipal government I have the pleasant privilege of extending a hearty welcome to our guests by whose presence the day is made historic. We are profoundly grateful to the distinguished gentlemen who have come across the seas to do honor to our city and State on this occasion. Equally grateful are we to the many citizens of our great republic and to our fellow-citizens of Texas who are assembled here in the name of civilization.

Though Houston is a comparatively young town, we have the energy and progressive spirit by which every young city in America, I believe, is characterized, and it gives me untold satisfaction to know that in the commercial strife incident to the great development of our country we still have the ability to recognize the necessity of cultivating the mind of man and giving him broad and thorough education. Of the institution which is opened to-day modesty forbids me to speak. To those who are going to make it a success and to those who have made great colleges a success I leave the expression of opinions which I might hesitate to form. But to all the distinguished guests of the new university I desire to say that although our city is small, as cities are measured, and thus unable to offer many of the entertainments and attractions of larger metropolitan cities, the hospitality we offer you comes from our hearts, and our desire to make your visit a pleasant one is not to be measured in any respect by the size or ways of the town, but by the ways and size of the human heart itself.

## THE RICE INSTITUTE

I now have the pleasure, ladies and gentlemen, of introducing to you the chairman of the Board of Trustees of the Rice Institute, a gentleman of high standing in this community, who has done a great work in its behalf—Mr. James A. Baker of Houston.

MR. JAMES A. BAKER: *Your Excellency the Governor, your Honor the Mayor, and you my Friends and Guests of the Rice Institute*—I am commissioned by the Rice Institute, whose dedication is to letters, science, and art, to extend to you, collectively and individually, a cordial welcome, not only to the halls and home of the new institution, but also to the homes and hearts of the people of the whole city of Houston.

As America a little more than a hundred years ago achieved her national independence and established on her eastern shores an asylum for those seeking liberty, so, too, have we, through the magnificent generosity of William Marsh Rice, established in the far Southwest the Rice Institute, an asylum of learning; and in the name of this new university I extend a welcome to all to come and drink from the fountains of knowledge which have been provided for this festal occasion.

And especially do we extend a glad welcome to those of our guests who have come to us from foreign lands.

A joyous welcome indeed to the representatives of the great French Republic; for it was she who more than a century ago recognized the independence of this country and gave to America the brilliant Lafayette, who in turn gave us generously of his blood and fortune, that the spirit of liberty might flourish upon our shores.

An equally warm and cordial welcome to the representatives of the great German Empire—the Fatherland. She



## BOOK OF THE OPENING

not only furnished us a distinguished soldier who fought with our forefathers the battles of our Revolution, but she has freely given us thousands upon thousands of the sturdy citizenship of our people, who have cultivated the waste fields of the State and nation until they bloom as the rose.

A warm and joyous welcome to the distinguished representatives of imperial Spain, for to her we are indebted for the patronage of the intrepid discoverer of America. In the heartiness of this welcome we wish you to feel that all of the wounds inflicted by the late unpleasantness between Spain and America have long since been healed in the recollection of the bravery and the heroism of the soldiers of both armies.

And a threefold welcome to the distinguished representatives of grand old England and merry old Scotland. In coming to America you come among us as kinsmen who are flesh of our flesh and blood of our blood. All the years which lie between 1776 and this year 1912 have only served to teach us mutual sympathy and to strengthen the bonds that bind our hearts to our mother-country.

Welcome, thrice welcome, one and all, to the hearts and homes of our people.

MAYOR RICE: It is my pleasure to introduce to this audience the Governor of Texas; and when I say the Governor of Texas I mean the man who governs the largest area of land as a State in the American Union, and who, as a typical American, stands before the people of the United States as the chief executive of this great commonwealth—the Honorable O. B. Colquitt, Governor of Texas.

GOVERNOR O. B. COLQUITT: *Mr. Mayor, Guests of the Rice Institute, of the City of Houston, and of the State of Texas, Ladies and Gentlemen*—The most humble citizen of

## THE RICE INSTITUTE

Texas may enjoy the privilege of being governor of this State, and on this occasion I feel myself to be the most humble of the humble. I am glad to be present on this occasion. I feel that I am indeed fortunate in being present. As chief executive of this State I am proud to come to Houston and welcome the representatives of American and foreign universities, distinguished scholars and scientists of England, France, and Holland, of Germany, Italy, and Spain, who have come to participate in the inauguration of the Rice Institute.

Within seventeen miles of this city is the San Jacinto battle-field, where the Republic of Texas was born. In this city of Houston, which used to be the capital of the State, within three blocks of this auditorium, the Congress of the Republic of Texas used to assemble in a log cabin, and to that log cabin the nations of the earth sent their representatives in recognition of the republic. And now, in these latter days, you have the Rice Institute, a great private institution magnificently housed for the public good, and the nations of the earth send their representatives here to welcome it into the fold of educational institutions.

With a handful of men under the leadership of Sam Houston, the independence of the republic was achieved in 1836. Since that day the progress of the American people has been truly wonderful. The progress of the people of Texas has been even greater. We have builded without assistance a magnificent civilization. I say without assistance, for even William Marsh Rice's splendid contribution was a product of Texas, because, although a native of Massachusetts, he came to Texas in his early boyhood and here made his fortune and his career.

I am happy to welcome you to Texas because Texas is made up of people from all the nations, and some of the

## BOOK OF THE OPENING

best people we have are among those who have come from other nations. I am proud to say that my own mother's family came from Holland, and that the adjutant-general of my staff is an Englishman.

I am proud, my friends, of the State of Texas. I am proud of its magnificent territory, proud of the progress that we are making in educational matters; and I want to say to you that as governor of Texas I am proud of the form of its government and of the government of this nation, the government of Washington and Jefferson, of Madison and Franklin. They founded a government based on a written constitution, written for the purpose of defining and limiting the power of the government. Freedom of conscience, freedom of religion, the right of each man to listen to the dictates of his own conscience, these are the proudest heritage of American citizenship enjoyed under this constitutional government. And I want to say, without disparagement to any other nation, that there has been more advancement in science since the Declaration of American Independence than there was during six thousand years before.

As I said a moment ago, the capital of this State, of the Republic of Texas, used to stand within three blocks of where you are now sitting. Representatives of foreign nations, of the French Government and of the English and German empires, came to Houston to represent their people at the capital of the Republic of Texas. In the meantime, we had knocked at the door of the American Union for entrance; our knocking was finally answered, and we became a part of this Union, and to-day we are the proudest part of these United States.

The Mayor of the city of Houston was very modest indeed when he told us that Houston is a small city. I want to say that Houston is not a small city, and I welcome you



## THE RICE INSTITUTE

not only to the largest State in the Union, but to the largest-hearted municipality you will find between the rising and the setting of the sun. And now I want to invite those of you who are looking for a haven of prosperity, a haven of political and religious peace, to make your permanent residence in Texas. We do not ask your religion, we do not ask your politics, we do not ask you where you graduated—I had not the chance to graduate anywhere myself. All we ask is, Are you a man? We judge men by their merits. All shall have equal protection under the law. We are a truly cosmopolitan people, and live by the freedom of democracy. The Rice Institute is one of the results of this freedom of spirit. This spirit of independence, this spirit of hope, this spirit of progress prevails everywhere throughout Texas. And, my friends, I want to say that so far as I am concerned, and so far as my influence might go, I would rather have founded the Rice Institute and provided for its maintenance to educate the hearts and the minds of the people of Texas than to be emperor of any foreign nation of the earth.

Now, Mr. Mayor, I came here without any written speech. I have been so busy attending to the necessary affairs of the people who occupy the territory extending from Orange to El Paso, a distance of nine hundred and thirty miles, and from Brownsville at the mouth of the Rio Grande to Amarillo, a distance of nearly eleven hundred miles, that I have not had time to prepare a speech for you; but a man who is governor of a territory so extensive has so many features of life presented to him daily that he is always bold enough to make a speech on any occasion.

Again I thank you one and all for coming to Houston and for the distinction you are lending the city and the State on this auspicious occasion, and again I welcome you from the

## BOOK OF THE OPENING

bottom of my heart, and I speak for the entire citizenship of Texas in extending you that welcome.

MAYOR RICE: We have listened to Governor Colquitt's cordial address of welcome, and now we are going to have the great pleasure of listening to a response from one of our most distinguished foreign visitors, Professor Sir William Ramsay of London, England, who, with Lady Ramsay, has come to assist in the launching of Houston's university.

PROFESSOR SIR WILLIAM RAMSAY: *Your Excellency, your Honor, Ladies and Gentlemen*—I have to make one remark before beginning, and that is to allude to the way in which the mayor expressed his invitation of welcome. He called me a "foreign visitor." I decline that aspersion. I am not a foreign visitor. When we have the pleasure of receiving you Americans in London, we don't call you foreigners. We don't expect to be called foreigners when we come to your country.

Now, ladies and gentlemen, what your mayor has said about the progress of education is true. It is absolutely true. The governor has hinted that the progress of education, the progress of science, has been contemporaneous with the separation of America from England. That reminds me that I once heard your ambassador to Great Britain, Mr. Choate, make the following remark at a dinner given on the occasion of the ninth jubilee of the foundation of the University of Glasgow, which took place in 1901. He said: "Your institution was founded in the year 1451, about the same date as that on which America was discovered. Before that you had what you justly called the 'dark ages.' "

We are separated, America and Britain, but we on our side welcome the close alliance which now exists. I see in


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front of me the word "Peace." I am reminded of one of your great cities in America—Philadelphia—and of its motto, "*Philadelphia maneto*" ("Let brotherly love continue"). I also see numerals on the same flag on which is written the word "Peace," running from one to ten, which I presume is intended to recall the ten commandments. I presume it is intended to mean that the people here are not to break them. Well, ladies and gentlemen, up to the ninth commandment I am willing to obey; but when it comes to the tenth, I am not quite sure. I have seen the Rice Institute this morning, I have read its papers, and I know what it intends to do, and I am not sure that you have done right to show us the Rice Institute before suggesting to us that tenth commandment.

We know you have before you a magnificent career. You have begun it well by making appointments of eminent men to be your professors. You have begun it well by the number of students whom you have enrolled. I am told that only about one fourth of those who could have attended and who could have come in have been accepted. You are going to keep your standard high.

Well, gentlemen, there is one thing that has struck me as a danger threatening American universities. It is the large number of students enrolled. These numbers are growing too large. Let me give you a specific instance. The professor of chemistry in the University of California told me lately that he had over two thousand students to teach. To teach two thousand students is an impossibility. What can you do? My suggestion is this, that you increase the number of your teachers. Don't appoint assistants, teachers, lecturers, but create entirely separate departments. If you require two professors of philosophy, have them at double expense. It pays. You cannot turn out students as you




 RAEFECTO ADMINISTRATORI BVSQUE  
 INSTITUTI LITTERIS ARTIBUSQUE  
 COLENDIS MUNIFICENTIA GUILF-  
 MI RICE HOUSTONE IN URBE TE-  
 XATIS CONDITI VITUS VOLTERRA FACUL-  
 TATIS SCIENIARVM ROMANAE PRAESSES  
 S · D · P


 ECTOR Magnificus Praesides Professor-  
 res omnes Regiae Universitatis Studiorum  
 Romanae Vobis Viri clarissimi suis verbis  
 haec a me denuntiari voluerunt. Quod exi-  
 mia civis Vestri liberalitate Vestraque cura  
 ac diligentia nova apud Vos Musarum se-  
 des condita est omnibus rebus quae ad optima studia ex-  
 colenda promovendaque pertinent, opipare instructa, Vo-  
 bis gratulamur, nobis gaudemus. Nam cernimus Ve-  
 stratum opera genus humanum inventis cuiuscumque  
 modi vel ad utilitatem vitae vel ad cognitionem rerum  
 studio assiduo felicique successu locupletari; et arbitra-  
 mur quidquid ubique gentium repertum sit, id cum ad  
 omnes homines tum ad nos maxime attinere. Qua re  
 Instituto Vestro tam laetis auspiciis orto vota  
 etiam atque etiam nuncupamus, augura-  
 murque fore ut in perpetuum floreat  
 atque summam doctrinae glo-  
 riam adipiscatur. Quod  
 bonum laustum, felix  
 fortunatumque sit  
 VALETE

AD IV Id Oct anni

MCMXII p. Chr. n.



*Alberty Bonelli*  
*Rector*





## BOOK OF THE OPENING

would needles or wire or nails. Learned men cannot be made like them. Each student must come into personal contact with his teachers.

And now, gentlemen, speaking for your foreign visitors and guests, I have the honor to express our gratitude to you for having given us this opportunity of coming among you. We have passed, my wife and I, through this great country of Texas. Of course I suppose that while alongside of a railroad one sees the homes and the farms of the settlers, when one goes back of a railroad the country loses signs of being inhabited, yet what we have seen of the country has been magnificent. It is evidently very fertile, and it is becoming populated, and you have only to wait and let immigration take place to have Texas become one of the greatest imperial States of this country, and one of the finest in the world.

We have come to you, we have come to see your country, we have come to make friends with you, and I now desire that you will give us every opportunity to do so.

I thank you very heartily for your cordial reception.

I will now use a custom which is not included in American gatherings of this kind, but is common at similar gatherings on the continent of Europe; it is to raise my glass and drink to "The Prosperity of the Rice Institute."

MAYOR RICE: Professor William Henry Carpenter, Provost of Columbia University, is one of our guests from the Metropolis of the Union. He has kindly consented to respond for the Eastern institutions. With great pleasure I present him to you.

PROVOST WILLIAM HENRY CARPENTER: *Ladies and Gentlemen*—The life of every human being in retrospect, I

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imagine, has its quota of regrets for hopes unfulfilled and for opportunities wasted. Since I have been sitting at this table, I have added still another to my own total of regrets, and that is a regret that I am not a citizen of this great commonwealth of Texas. The governor's speech has filled me with desire. I belong to a community which, to be sure, has played its historical part in the evolution of a nation; but nevertheless, when I think over its past in connection with the governor's glowing picture of the future, it seems to me what we have done is little in amount and significance in its ultimate effect as an influential part of the whole.

The president of the Rice Institute has asked me to say a word on behalf of the Eastern institutions of learning. In thinking over what I was to say before I came here, it seemed difficult to make a choice where so much might be said at the launching of a new educational enterprise under the peculiarly favorable conditions that attend the present. Some thoughts, however, have suggested themselves, that perhaps may be presented as bearing upon the occasion that has called us together.

The one thing that I have thought of is the object-lesson that is made by such a gathering of men as are present here to-day. For it seems to me that no gathering of men, for whatever purpose it is arranged, or in whatever spirit it is intended, is so significant as is an assemblage of this kind, that has brought learned men across the seas and from so many parts of this great republic.

No gathering of men speaks so much for the solidarity of human interests as does an educational gathering such as this. There are other gatherings of men that have for their object the extending of the propaganda of some particular subject. There are political conventions that are got together in a state or in a nation for a single definite purpose.

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But here is a gathering from the ends of the earth for a purpose that is broader in its intention and its results than any other—the common purpose of education.

And another thing comes to my mind in looking over the names of the delegates to your celebration. I have thought not only of the solidarity of interest, but of the permanency of interest that is indicated by the gathering here to-day.

No human institution is so permanent as a university. Dynasties may come and go, political parties may rise and fall, the influences of men may change, but the universities and what they stand for go on forever. Oxford and Cambridge have outlasted changes of party and of policy. The University of Paris has withstood a revolution that transformed the face of the nation, but it exists to-day stronger than ever before. The University of Bologna, to go further afield, stands almost alone as a monument of previous greatness in a city whose importance is wholly a thing of the past and whose very existence has almost been forgotten. And in our country universities have been founded that have outlasted the long list of presidents of the republic. Harvard and Yale and Princeton and Columbia, in fact, have witnessed the change from the colonial government of England to the democracy of the present day. Whigs and Tories have come and gone, political waves have risen to the surface and have been submerged, generations of men have lived and died, but these universities have gone on their way to the present time, and, well founded, they will go on forever.

No human activity is so permanent as the influence of the university, and the opportunities of the university are greater to-day than they have ever been before in the civilized world. This is possibly true as well of the great industries of this great country, and the two—industry and education—



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go more and more hand in hand together. The present time is pre-eminently a time of awakening in industry and education alike, and industry, in its many-sided interests, is looking more and more to education, even in an age that is called material, for enlightenment and support. Out of the laboratories of the universities are coming to an increasing extent the influences that make for economic and industrial improvement and contribute to the betterment of human living and to the good of mankind.

In America we have had in education an era of theology at the beginning, which was succeeded by an era of law, and which, in its turn, has been succeeded by the era of science in which we at the present time live. It seems to me that the time is ripe for the founding of a university such as the Rice Institute will doubtless develop into in the near future. There is in my mind, and in the minds of many who have carefully watched the signs of the times, the possibility of the development of a new interest in America in the arts and in letters and in all the liberal knowledge that is included under these names. By taking advantage of the opportunity which is plainly open to you in working out your educational plan, and by firmly basing a scientific superstructure only upon a broad cultural foundation, you will not only exercise an important influence in that movement of enlightenment that is sweeping through this part of the world, as the governor has so proudly and eloquently explained to us, but you will contribute your part to a movement that presently, unless all signs fail, will extend over the United States.

There is an old motto, a motto that has come down out of the distant past: "*Ex oriente lux*" ("Light comes out of the East"). In the establishment of the Rice Institute you have done something that in a future that may not be distant will lead us to say, "*Ex occidente lux*," as well, for light will

## BOOK OF THE OPENING

surely come to us out of the West as a consequence of your action.

Well, gentlemen, I do not know that I have much more to say. I should, however, after all, like to say just one more word about the opportunities of a great university, such as this in the future is to be, as a factor in the life of the nation.

Somebody has said, "The weaknesses of a democracy are the opportunities of education." I think there is a great deal in that to ponder over, because a democracy—this democracy—does have its weakness as well as its strength. A great weakness, as I see it, in this democracy is the indifference that largely prevails throughout the country to the broader education of the body of the people. If we go on along those lines in the future as we frequently follow them to-day, we shall develop here in America not at all what the forefathers of the republic had in mind when they signed the Declaration of Independence, and we shall have a government of the many by the few, instead of a government by all, as is inherent in the very life of a democracy. It is the business of the educator to recognize this weakness, to come down from his heights into the valleys, and to work in the light that has been given him for the extension of educational opportunity that will make in the end for the salvation of his country.

Now, gentlemen, in closing, I wish to extend to the Rice Institute, so auspiciously founded to-day, the congratulations of the older Eastern universities upon your entrance into the work of education—a work, maybe, that has its discouragements, but which has in an extraordinary measure its profound satisfactions. My university—Columbia University in the City of New York—was founded back in 1754, so that I am speaking in a way, at least by proxy, out of the



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depths of time and experience. I wish, however, not merely to bring to you the felicitations of our universities in the East on your birthday, but to extend to you by a heartfelt grasp of the hand an invitation to join our ranks, in what seems to me in many ways to be more than almost any other human institution whatever, a community of the immortals.

I thank you, gentlemen.

MAYOR RICE: It is now my pleasure to introduce to this audience Professor Vito Volterra of the University of Rome, life Senator of the Italian Kingdom, whom we welcome most cordially from the south of Europe to this southern country of the American nation.

PROFESSOR SENATOR VOLTERRA: *Mr. Governor, Mr. Mayor, Ladies and Gentlemen*—I should like first of all to declare my great pleasure in being present at this festival, and my appreciation of the cordial and bountiful hospitality that I have found here in Houston. Allow me to express the feeling of admiration that I experience in visiting this great new country, an admiration that has changed only to increase since my last coming to America. Your high civilization and enterprising spirit have been able to conquer an entire continent, to create as if by enchantment marvelous cities like this which we are visiting now. These grow up in a few years. They provide themselves not only with all the modern comforts which make existence easy and agreeable, but also reach a high place in life that is intellectual and moral. And we see here to-day one of the most notable examples of this spirit, as we inaugurate this magnificent university, the gift of William Marsh Rice. He has rendered to the culture of his country a magnificent, well-conceived service.

## BOOK OF THE OPENING

No institution could more impress the mind, could make more manifest the difference between the old continent which we have left, and this country, full of youth and spirit, which we have found. Our universities have ancient and most deep-reaching traditions. Every idea that has been developed in moral and intellectual fields, from the time of the distant Middle Ages until to-day, has left its impress upon them, and their life exhibits always the results of this long development of customs and thought. But you have created institutions from the beginning and at once, universities in which you can accommodate everything to the demands of the present, without the embarrassment of a single relic from the past.

Yet the men of the old universities of Europe, and those who constitute the new ones in America, have the same high aspirations and scientific ideals in common. Rendering mutual aid, they can and ought to march together. Both should bring their contributions to the collective labor that tends to scientific progress and evolution.

It is for this reason that I see with such great joy, united here before me, the representatives of these two continents.

MAYOR RICE: I now have the honor of introducing to you Professor Sir Henry Jones of the University of Glasgow. We welcome this distinguished philosopher warmly from a city whose example we have sought to emulate in the Houston ship-channel.

PROFESSOR SIR HENRY JONES: *Your Excellency the Governor of Texas, your Honor the Mayor of Houston, Ladies and Gentlemen*—We have been told many things this afternoon, and told them well. You will pardon me, I am sure, if my words are few; I am not convinced that though they

## THE RICE INSTITUTE

were many they would add to the value of those to which you have already listened with such courtesy and so gladly.

But I have two duties to perform, and I can neglect neither. The first is to express my satisfaction in being present amongst so many lovers of learning not only from this city but from the States of America and of western and southern Europe. I count it a great privilege. On the last occasion of such a gathering as this at which I was present, the jubilee of Lord Kelvin as professor in the University of Glasgow was being celebrated. Professor Ker of London University compared it to heaven. "You meet so many old friends," he said, "and you are so surprised to see them."

My second duty and my still greater privilege is to join with you all in good wishes for the prosperity of the Rice Institute. You are entering to-day, ladies and gentlemen, upon an enterprise whose significance for the future no man can measure. There is no doubt as to the means whereby man masters his world and converts its blind forces into beneficent powers. They are the same means, in the last resort, as those which help him in the still more difficult enterprise of mastering himself. They have all one, and only one, purpose. It is that of so operating upon the mind of man as first to awaken and then to foster that passion for truth which is the condition of all sincerity in conduct as well as of all advancement in knowledge, and which brings a clear conscience as well as a clear mind. Your Institute, in the last resort, is dedicated to the making of character—and character, good or bad, builds up or pulls down civilization. It is the greatest thing in the world. With all my heart I desire your prosperity in your dealing with it, for in it is the true measure of the attainment of the end which you have set before you in the Rice Institute—"the advancement of literature, science, and art."



## BOOK OF THE OPENING

MAYOR RICE: We have among our guests Dr. George Cary Comstock of the University of Wisconsin. It is now my pleasure to present him to you, with a request that he speak not only for his own university, but for the other institutions of the West.

DEAN GEORGE CARY COMSTOCK: *Your Excellency the Governor, your Honor the Mayor, my Colleagues, Ladies and Gentlemen*—On behalf of the university I represent—Wisconsin—and on behalf of her sister universities of the Middle West, in so far as I may speak for them, it is with great pleasure that I return to you our thanks for the courtesies that we have received on this occasion, and our appreciation of the very warm hospitality that the city of Houston and the State of Texas have extended to us.

But I stand here, Mr. Mayor, not simply as the recipient of your kind hospitality, but as your fellow-countryman in welcoming the addition of a new star to the educational firmament of this land. I desire to join with you especially in extending my share of recognition and praise to that new name that has been added to the list of distinguished benefactors of American learning and science, to that list which, beginning with Harvard and Yale and continuing in unbroken line through the generations of our forefathers, to-day has added to its roll the name of William Marsh Rice.

We stand at the beginnings of the Rice Institute, a notable foundation placed in the midst of an empire ready for its service. It is the function of its honorable president and its Board of Trustees to care for the future of that institution, to determine the lines along which its development shall take place; and far be it from me upon this occasion to express to them aught other than sympathy for their undertaking. Words of advice are not needed, and would indeed

## THE RICE INSTITUTE

be out of place at this time. But I may speak to some of you gentlemen here, who are men of affairs, who enjoy the fruits that come out of the educational policy of our land, and who desire to see that policy grow and bear fruit fairer and better than any yet realized.

The greatest Englishman of our day, politician, administrator, financier—I mean the late Cecil Rhodes—cherished such desires from boyhood to the close of his career, and dying at the height of his power and influence, left a vast fortune to be devoted mainly to such ends. Let me put before you briefly his aspiration and the purpose that he sought to accomplish by endowing at Oxford University some two hundred scholarships to be filled by the most promising youth that could be collected from English-speaking lands; young men of power and purpose, of moral aspiration as well as scholarly attainment, who were to be assembled at that ancient seat of British culture, “for breadth of view, for instruction in life and manners,” and—mark the vision of the empire-builder!—“to secure an attachment to the country from which they have sprung.” Does his vision appeal to you? Is it worth while to bring together during their impressionable years the youth that have shown promise of future leadership and to give to them a common training in the best traditions of the race? To wear down the corners of prejudice, to round out the defects of provincialism, to fill up the gaps of ancestral experience? Rhodes thought it was. I share his belief, and I appeal to you, gentlemen, shall this remain only a British ideal? May we not look forward to its Americanization? May there not be placed upon the head of the Rice Institute a great crown of glory in that it shall be a center toward which the youth of the world shall come to be trained in the ideals of American life and





THE UNIVERSITY OF ABERDEEN having been invited by the President and Trustees of the Rice Institute of Liberal and Technical Learning in Houston, Texas, to send a delegate to the formal opening of the New University and to the exercises attending the Inauguration of the Educational Programme of the Institution on the tenth, eleventh, and twelfth of October; the University Court, in response to the invitation, while endeavouring to arrange that the University of Aberdeen shall be represented on so auspicious an occasion by one of its graduates, desires to congratulate the President and Trustees of the Rice Institute upon the magnificent endowments and buildings in their charge, and prays that the studies to which these have been devoted, and which open this year, may abundantly flourish to the advancement of Literature, Science, and Art in the State of Texas and throughout the American Continent.

*George Adam Smith* L.L.D.

*Principal and Vice-Chancellor.*

*September 12th, 1912.*



## BOOK OF THE OPENING

light, of religion and liberty, for the use and profit of the whole earth?

But, gentlemen, I turn from this concept to another expressed with equal clearness in the words of Cecil Rhodes, and which seems also noteworthy, albeit in a very different way. Having confided to Oxford the splendid commission above suggested, he pays his respects to its personnel in the words: "As the college authorities live secluded from the world, and are so like children as to commercial matters, I would advise them to consult my trustees," etc. On behalf of our American universities, let me disclaim any such concept as to the kind of men that should compose the faculty of an institution of learning. We of the North and Middle West believe that a great university should be an institution to which the community may turn for guidance, for leadership, for expert advice in matters of science and scholarship that lie beyond the range of every-day experience. It should be a place in which knowledge grows; in which, year by year, substantial additions are made to science, to letters, and to art; but in no less measure should it be a place in which that knowledge is utilized for the benefit of the man on the street. A major function of the university is to make abstract science concrete and profitable to mankind, and that end cannot be secured by the dreamy recluse of Mr. Rhodes. That type indeed has its uses, and with its disappearance something would be lost from the sweetness of life, but let us not trust to it alone for our academic staff.

Here are two ideas that I would bring before you: that the institution in whose home we meet to-day has before it an extraordinary opportunity to serve humanity as one of its nerve-centers, and that it will be a stimulus to youth summoned hither from an area far wider than the prairies of

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Texas and placed under the influence of men awake to the needs and tendencies of the times and capable of giving will and heart to service that shall be as thorough and competent as it is devoted.

And now let me bid you join in pledging to the Rice Institute and its successful fulfilment of its mission that good old academic toast:

*"Vivat, crescat, floreat in eternum!"*

MAYOR RICE: Among the university presidents of the East who have come to visit us at this time is the distinguished president of Lehigh University, Dr. Henry Sturgis Drinker. I have great pleasure in asking him to address you.

PRESIDENT HENRY STURGIS DRINKER: *Governor Colquitt, Mayor Rice, President Lovett*—Among the gracious words of welcome which have greeted us who have come from distant points to rejoice with you to-day were words of kindly thanks and appreciation for our presence here. Sirs, it is for us from full hearts to thank you for the opportunity to share in the great work to-day inaugurated, and I assure you we appreciate the privilege.

We come from the North, the South, the East, and the West to draw from the Lone Star State the new inspiration of liberty that you gave us of the older States in your struggle for independence, and now you are setting us a further example in your successful educational progress.

Columbia University has just spoken to us from among the older institutions of our land. There was a time when we used to rate Lehigh University as of the younger brethren in the educational family. But we have moved up into the middle-aged class. The donation of Asa Packer, amounting

## BOOK OF THE OPENING

in the aggregate to about three million dollars, and beginning with five hundred thousand dollars in 1865, to found my Alma Mater—Lehigh—was at that time said to be the largest sum ever given to education. But now you spring full-panoplied into the arena with your magnificent endowment, and withal, with the past half-century of experience of our country in the working out of our American system of higher education, of which you may, and will, avail.

Surely your future is bright, and surely the founder of this great institution—great already, greater in its potentialities for the future—merits the application of Sophocles' words where he says in his "Œdipus":

*"Methinks no work so grand  
Hath man yet compassed, as, with all he can  
Of chance or power, to help his fellow-man."*

MAYOR RICE: Professor Emile Borel, a celebrated mathematician and educator of France, has come to the inauguration of the Rice Institute as the official delegate from the University of Paris, the mother of all modern universities, to participate in our academic festival. You will, I am sure, share the pleasure and honor I feel in introducing him to you.

PROFESSOR EMILE BOREL: *Mr. Governor, Mr. Mayor, Ladies and Gentlemen*—The presence on this occasion of so many eminent representatives of American and European universities shows clearly with what interest the learned world regards the inauguration of your new university. I am happy to convey to you the greetings and congratulations of the University of Paris, which is one of the oldest of universities. I am happy to thank you, both in its name and in my own, for your cordial hospitality. The municipality of Houston does us the honor of receiving us to-day as its

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guests. Permit me to raise my glass to the rapid extension of this great new city, so active and so rich, which, along with its commercial development, has desired to have a corresponding scientific and intellectual development, in such a way as to become doubly a center—namely, a business center and a center of thought. I drink most heartily to the prosperity of the city of Houston and to the prosperity of the Rice Institute.

MAYOR RICE: It is now my pleasure to call upon the president of one of our own Southern universities, who will respond on this occasion for the universities of the South—Chancellor Kirkland of Vanderbilt University.

CHANCELLOR JAMES HAMPTON KIRKLAND: *Your Excellency the Governor, your Honor the Mayor, Ladies and Gentlemen*—It is a pleasure to be here on a day that, I think, will live and go down in the history of this country and the State of Texas. I have had the honor as well as the pleasure of attending and participating in many educational conferences and many gatherings of men of science and letters, but I never attended one launched upon such a broad scale—such a truly cosmopolitan scale—as this gathering incident to the dedication of the Rice Institute. It means that the great colleges of the world recognize the Rice Institute as one of their number.

When all who have participated in these exercises have passed away, and all who are now appearing and bearing the glory of building this new institution have passed, their work and this beginning of this Institute will be remembered in history as the greatest day in the history of Houston and Texas.

It is a pleasant thing, Governor Colquitt, to come to Texas. Tennesseans know that, and they come here in



## BOOK OF THE OPENING

abundance. You are gracious, Mr. Mayor, to call for comment from a representative of my State. Among the names most revered in the State of which I am a citizen is the name of Sam Houston. Do you know, sir, that a very curious thing is this, that every historian of Tennessee who has written about Sam Houston and his life has raised the question, but never found a solution of the question, why Sam Houston ever left Tennessee and came to Texas. But no man who has ever lived in Texas has ever raised the question.

It is of very great significance that the governor of the State is here from his duties to take part in the exercises of to-day, to participate in the inauguration of a great private institution, as he has just said. I do not agree with the governor. This great institution that you are launching here is not a private institution. There are no private educational institutions, gentlemen. All institutions for the education of a people are public institutions, devoted to public acts and public enterprise, and always part of the great public interest. As we come to this festal day, a few things of great significance occur to those of us who are working in other institutions, especially so if those institutions happen to be in the South.

In the first place, the Rice Institute begins its history without the dreaded poverty that has marked the growth of every Southern institution, and of almost every institution in this country, until now. We of the South know what it is to pass through individual and institutional poverty, and of the two, I may say that institutional poverty is worse, much worse, than individual poverty, more harassing and harder to get rid of.

Another striking factor in the greatness of this institution I speak of with real gratification. The Rice Institute will not be compelled to follow the example of so many insti-

## THE RICE INSTITUTE

tutions, and engage in the mad race for numbers. It can afford, under its endowment, to make it a badge of honor to have been a student of the Rice Institute, and I am sure that just such high standards will be maintained.

Still another factor I would mention—though I mention none of these things to give advice. This institution will be conducted, by the history of its being, to a certain specific line of work, to a line that we may call scientific in its broadest sense, scientific in a sense that would neglect neither the spiritual nor the commercial value of science. Now, in that broad sense, we look to this institution to be a mediator between those two great ideas. And in this work of mediation it will do great and needed service to the South. What resources of the land here are undeveloped! Throughout our whole history we have been lingering along, and we have followed along the way of our fathers, believing that what was good enough for them would be good enough for us. But now in the South we realize that, while we honor the past, the past is not good enough for the present and much less is it good enough for the future. Our leaders are breaking away from the past traditions; they are thinking for themselves, and they are speaking for themselves. The day is near at hand when Southern men shall again enter in power and influence the halls of state which their fathers held under possession in the earlier years of our national history.

And so I look to the Rice Institute to lead a new South, a South that shall walk hand in hand, in science, industry, and service, with all other sections of our country and with the whole world.

MAYOR RICE: Among the distinguished European scientists present this afternoon is Professor Hugo de Vries of

## BOOK OF THE OPENING

Amsterdam, eminent for his researches in biology. I now have much pleasure in presenting him to you.

PROFESSOR HUGO DE VRIES: *Mr. Governor, Mr. Mayor, Ladies and Gentlemen*—I bring greetings from the University of Amsterdam to the Rice Institute, now entering upon a university career begun under conditions the most favorable. The universities of the old world as well as the universities of the new world welcome the advent of this new university. There is room in the world for more and more universities, because the tasks of science and education, always vast, are becoming vaster and vaster. This is not my first visit to America. And here in Houston and in Texas, as on previous visits, I find warm hospitality and friendly greeting. I am grateful to the president and trustees of the Rice Institute, to the mayor and citizens of Houston, and to the governor and people of Texas for the gracious hospitality I am enjoying as their guest. For the new university I predict a bright future full of service to science and to Texas. To that prosperous future I raise my glass in high hopes and confident expectation.

MAYOR RICE: We have listened to warm responses from our foreign guests, and to equally cordial expressions from American institutions of the North, South, East, and West. It is now my pleasure to call upon a university man of Texas who will respond for the universities and colleges of this State—President Samuel Palmer Brooks of Baylor University.

PRESIDENT SAMUEL PALMER BROOKS: *Your Excellency the Governor, your Honor the Mayor, Ladies and Gentlemen*—I confess very much personal embarrassment that I, a simple Texan, reared on the frontier of things, should be



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associated here with these distinguished guests who have come from the learned scientific centers of the world. I am conscious of my inability to measure language and knowledge with these men, skilled as all of them are in their respective fields.

Gentlemen of the scientific world, you have a welcome in Texas. What we may lack in expressing this welcome we fill full in the bounty of our sincerity. For your learning we have high respect. You have ceased to surprise us by your discoveries. If you shall reduce all old physical elements to one, or conserve the waves of the ever-rolling sea, or extract the heat of unmined coal, or find perpetual motion, or increase the working-hours of honey-bees by crossing them with lightning-bugs, we Texans will never run from the facts.

President Lovett, Professors of Rice Institute, Members of the Board of Trustees, I give congratulation to you each and all on this happy day, the culmination of labors that make possible so auspicious an opening of this promising institution.

Ladies and gentlemen all, we here together represent the aristocracy of science and letters, which at last is a pure democracy where the merit of every man counts. However exalted we may become, we delight to sit at the feet of those able to teach us. However humble may be the walk and work of the schoolmaster, it carries the dominant note of strength, without limits of language or law or geography. However many of the old and worthy universities and colleges of the East there may be, none will fail to rejoice at the coming of any new institution giving promise of genuine power in the development of men. Right well we know there is no competition in real culture.

As I speak these words of congratulation on this felici-

Rector et Doctores  
Universitatis Graecianae  
Præsidi et Professoribus  
Instituti Rici S. P. D.

Redditae nobis sunt litterae, quibus,  
pescendum sunt ut gratissimum depromebat  
tur desiderium vestrum ad Universitatis Graeco-  
rianæ per aliquam e suis Doctoribus a nobis  
delectam interesset solenni actioni. Institutum  
in Rici in urbe Herodoti regem Casar Sta-  
tum. Facultatem nos habundat. Num  
cum per locorum distantiam et in ipso per  
permodum nostrorum studiorum instaurata,  
actione hanc facile sit cuiquam e nostris hoc  
munus demandari, hinc litteris, et obsecra-  
tione nostrae testimonium et plurimas simul  
gratulationes vobis remittit. Interdum per  
per nos et amplissimam studiorum per  
lostantiam, quam constituitur nuper aggrasse o-  
stis. Et infra quidem huius nascentes in-  
stitutum in gratia mentibus nostris rever-  
santur, quae recte rectas speramus per ut  
intellectus huius occidentalis regionis divites

jam saltem affluenter, ad formulas e-  
tiam animi humani nobilissimas activitates  
sedulo promoveantur. Quapropter indubitata  
hinc confidimus per praecellens Ricis status  
divergentis praefectos munificos flectis ten-  
ge huiusque hinc actionis praesentem cum om-  
nibus manifestis sit vestrum omnium hinc  
aspectu promovendo studiosa voluntas.

Nihil igitur magis optamus quam  
ut Ricis omnes cuiusque actionis huius  
Institutum actionem peramantem respiciant,  
perantque assidue vestros conatus, qui ad  
perfectionem recte institutionum tantum  
adhibentis, omnemque industriam et stu-  
dium in hunc finem dirigitis.

Quoniam hinc Praesidi hinc Profes-  
soribus omnibus salutem, denovo plurimam  
dicentes illud postremo vobis ea animi et  
memoriae ut ea omnibus. Amicitiae ut  
vobis hinc regionibus plurimos Althororum  
vestrum alumnos instituendas recipiat, et  
tu ut hinc salutem actionem perant, qui  
hinc perant rerum rationi flectis institui,  
et universam finem institutionem, quae ten-  
perant nostrum hinc splendorem actionem

exemplum humanae libertatis, quae de  
gelus temperatae, bene facilliterque re-  
fundantur.

Salutem Romae, die 1. Octobris 1892



Paul de Manet S. P. D.  
Rector magnificus



## BOOK OF THE OPENING

tous occasion, I do not forget the true and tried work of the institutions of learning in Texas. While young to you, I remind you that Baylor University received its charter from the Republic of Texas, which in the council-chamber of the nations of the earth for ten years was counted worthy to sit in the person of its ambassadors. Her students have walked untrodden places and welcomed learning from any source. Baylor as a private institution does not work alone. By her side in fidelity to truth and service have walked Southwestern, Austin College, and others of fewer years. I ask you to look out upon the work of the University of Texas, whose president and representatives are with us to-day. Its graduates are actually sitting in the councils of learning and power the world over. Nor do I forget the Agricultural and Mechanical College, whose purpose has been, and is, to dignify the knowledge of things pertaining to the earth and the handicrafts of men.

All Texas institutions are ready to learn and to utilize the experience of others. We do not work for ourselves, but for our country. We do not put limits on what we call our country. We love our State, our nation; we love the world, and believe heartily that we are a part of it. We believe in the brotherhood of man, and that God is no respecter of persons. Our work is world-wide.

On behalf of the educational institutions of Texas which I have the honor to represent, let me give thanks to the president and trustees of the Rice Institute for the pleasures of this day, and hope for them fields of usefulness as broad as the world. With you, sirs, we join hands in common service for the advancement of the human race.

MAYOR RICE: On behalf of our citizens, I thank all these gentlemen most warmly for the addresses with which they

## THE RICE INSTITUTE

have honored us on this occasion. I beg also to assure them and all of you that the welcome which we have extended at this time has no limit either of duration or season. We want you to stay not only through the celebration of the next few days, but just as much longer as you can conveniently arrange to remain with us, and we want you to return to see us just as often as you can. Before closing the exercises, I extend a cordial invitation to all our guests to sit with the governor and his staff for a group picture that is to be taken in front of this auditorium, immediately following the adjournment of this meeting.





## AFTERNOON MUSICALE

TENDERED TO THE GUESTS AND FRIENDS OF THE RICE INSTITUTE OF LIBERAL AND TECHNICAL LEARNING, BY THE TRUSTEES, ON THE OCCASION OF THE DEDICATION CEREMONIES, AT THE MAJESTIC THEATER, HOUSTON, TEXAS, FRIDAY, OCTOBER 11, 1912, AT THREE O'CLOCK

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### THE KNEISEL QUARTET

FRANZ KNEISEL, 1ST VIOLIN  
HANS LETZ, 2ND VIOLIN

LOUIS SVECENSKI, VIOLA  
WILLEM WILLEKE, VIOLONCELLO

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### PROGRAM

QUARTET IN C MAJOR . . . . . MOZART

ADAGIO-ALLEGRO  
ANDANTE CANTABILE  
MENUETTO (ALLEGRETTO)  
ALLEGRO MOLTO

THEME AND VARIATIONS (DEATH AND THE MAIDEN)  
FROM QUARTET IN D MINOR, OP. POSTHUMOUS . . , SCHUBERT

TWO MOVEMENTS FROM QUARTET IN G MINOR . . . DEBUSSY

ANDANTINO DOUCEMENT EXPRESSIF  
ASSEZ VIF ET BIEN RYTHMÉ

MENUETTO AND FUGUE FROM QUARTET IN  
C MAJOR, OP. 59 . . . . . BEETHOVEN





## EVENING CHAMBER CONCERT

GIVEN IN HONOR OF THE INAUGURAL LECTURERS, ON THE  
OCCASION OF THE DEDICATION CEREMONIES OF THE RICE  
INSTITUTE OF LIBERAL AND TECHNICAL LEARNING, AT  
HOUSTON, TEXAS, FRIDAY EVENING, OCTOBER 11, 1912, AT  
EIGHT-THIRTY O'CLOCK, IN THE FACULTY ROOM

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### THE KNEISEL QUARTET

FRANZ KNEISEL, 1ST VIOLIN  
HANS LETZ, 2ND VIOLIN

LOUIS SVECENSKI, VIOLA  
WILLEM WILLEKE, VIOLONCELLO

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### PROGRAM

QUARTET IN D MAJOR . . . . . HAYDN  
ALLEGRETTO-ALLEGRO  
LARGO (CANTABILE ERNESTO)  
MENUETTO (ALLEGRO)  
FINALE (PRESTO)

SUITE IN D MAJOR FOR CELLO SOLO . . . . . BACH  
MR. WILLEKE

THEME AND VARIATIONS FROM QUARTET IN  
A MAJOR, OP. 2 . . . . . GLIÈRE

QUARTET IN G MINOR, OP. 27 . . . . . GRIEG  
UN POCO ANDANTE-ALLEGRO MOLTO ED AGITATO  
ROMANZE (ANDANTINO)  
INTERMEZZO (ALLEGRO MOLTO MARCATO)  
FINALE (LENTO-PRESTO AL SALTARELLO)

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TO BE FOLLOWED BY A SUPPER AT THE RESIDENTIAL HALL COMMONS

TOASTS AND RESPONSES  
AT THE SUPPER GIVEN BY THE TRUSTEES  
AT THE RESIDENTIAL HALL  
IN HONOR OF  
THE INAUGURAL LECTURERS



TOASTS AND RESPONSES AT THE SUPPER GIVEN BY  
THE TRUSTEES AT THE RESIDENTIAL HALL IN  
HONOR OF THE INAUGURAL LECTURERS

PRESIDENT LOVETT: *Ladies and Gentlemen*—This evening's program, arranged by the trustees in honor of the Inaugural Lecturers of the Rice Institute, began with a concert of the Kneisel Quartet in the Faculty Chamber, and has been continued by the supper of which we have just partaken in the first formal function of its kind to be held in the Commons of our first Residential College. The concluding part of the program presents a most inviting prospect of the Founder's high purposes, for we have asked Drs. van Dyke, Conklin, and Cram to respond for Literature, Science, and Art, respectively, while Professors Altamira, Jones, Borel, Volterra, Ramsay, and de Vries have consented to speak in turn on History, Philosophy, Mathematics, Physics, Chemistry, and Biology. And to preserve as far as possible a balance between science and the humanities, which we have sought to hold throughout all the academic events of these three days, the responses this evening will occur in the following order: Literature, Mathematics, Philosophy, Physics, Science, Chemistry, History, Biology, and Art.

On finding myself with Sir Henry on my left and Sir William on my right and their equally eminent seven colleagues both right and left, I feel to-night as the man did respecting the Shakspeare-Bacon controversy. He said he didn't know whether Bacon wrote Shakspeare's plays or not, but if he didn't he missed the greatest opportunity of his life.

We believe that the gentleman whom I am about to introduce to you has written most of his own verses and stories, but, nevertheless, his contemporaries have found in all of

## THE RICE INSTITUTE

them a cipher, and wherever this cipher turns up it says one and the same thing: The man who wrote these lines was a lover of nature and a lover of men. And consonant with this cipher one finds "love, beauty, joy, and worship," which, as Plotinus says on the great arch of the sally-port yonder, "are forever building, unbuilding, and rebuilding in each man's soul." Ladies and gentlemen, I have the honor of calling on Dr. Henry van Dyke, man of letters, faithful friend, poet laureate of the Rice Institute, who will respond for "Literature."

DR. HENRY VAN DYKE: Nothing ought to surprise those who have been the guests of Texas at the inauguration of the Rice Institute, and nothing ever after can be too good for them. We have been lifted by the springtide of your hospitality to the absolute high-water mark, and henceforth we must measure festivals by comparison with this.

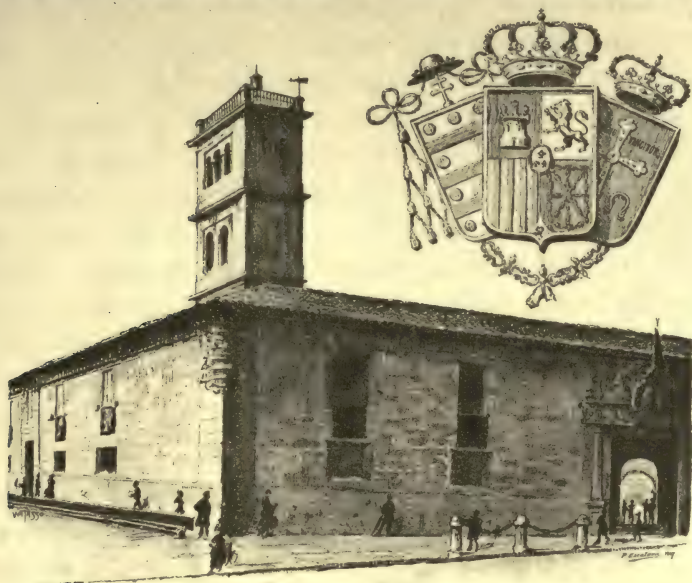
One thing, however, has astonished me a little during these days, and that is to find so many "lions" in Texas: academic lions, scientific lions, lions of the world of higher education. Among these distinguished representatives of famous institutions, these doctors of many degrees, a simple shepherd of the hills can understand how Daniel must have felt in the lions' den—perfectly safe but somewhat embarrassed.

I do not represent any learned institution, any scientific theory, any school of philosophy. Merely because I have written a few stories and a few verses, I have been asked to speak for Literature.

Literature is that one of the arts which works with the least costly of all materials—words—to embody the most precious of all human possessions—ideas. Any language that has expressed noble thought and feeling in lucid form



# UNIVERSIDAD · DE · OVIEDO



El Ilmo Sr. Rector y Claustro  
de la Universidad de Oviedo (España)  
comunican á su antiguo Profesor  
Sr. Rafael Almaraz, Cavia  
para saludar fraternalmente  
á la Universidad de Houston (Rice Institute)  
felicitándola por la inauguración  
de sus estudios superiores;  
y hace fervientes votos por su prosperidad,  
despueta la Escuela ovietense  
á mantener cordiales relaciones  
en bien de la cultura  
con su nueva hermana de Texas  
al mismo tiempo que rinde  
respetuoso tributo de admiración  
al generoso fundador  
William Marsh Rice

Oviedo 4 de Octubre de 1912

El Rector

*Juan Canella*

El Secretario general

*Francisco Pabon*







## BOOK OF THE OPENING

becomes classic. Any race that has succeeded in producing real literature, by virtue of that production becomes immortal. The one thing that does not die is the well-chosen word whose soul is the well-born thought.

Literature is the most humane and intimate of all the arts. It comes closest to the common life of man. Good books help us to understand our own hearts. They open the world to us. They are revealers and interpreters, friends and counselors. They liberate us, at least for a little while, from the slavery of time and space. And while the other arts in their perfection are not always accessible to those who are not rich in this world's goods, the best literature is usually the cheapest.

There has been a good deal of talk about an "American literature." American literature has begun. It began when the life of the American people became conscious of deep thought and true feeling, and took expression in literary form. It will continue and grow and develop, this American literature, just as the life of the people of America becomes deep, strong, vital, and sane. It cannot be made to order. It cannot be made on a cook-book recipe. It cannot be made by any plan of localism, or by the division of the country into geographical sections, so that we shall have a literary school of the southern half of Indiana, or a literary school of the eastern corner of the northern half of Texas. That is not the way literature is made. Literature will grow when the life of America is so enriched with deeper emotion and thought that it must find expression in our common and classic English tongue.

Literature cannot be taught. There are things in our universities that we call "chairs of literature." Those who occupy them, if they are doing their duty, are simply "teachers of reading"—that is all. Literature cannot be taught,

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any more than any other of the higher arts can be taught. You cannot make a literary man by instruction in a classroom. You can correct his grammar. You can correct his spelling; that is to say, you can do something in that direction as long as the "Simplified Spellers" remain in abeyance. But you cannot make him a writer, any more than you can make him a sculptor, unless Nature has bestowed the gift.

The best that we can do for Literature in our universities is this: to cultivate an appreciation for that which is finest and most humane in the writings of the past; to teach young men and women to know the difference between a book that is well written and a book that is badly written; to give them a standard by which they may judge and measure their own efforts at self-expression; and to inspire in the few who have an irresistible impulse to write, a sincere desire to find a clear, vivid, and memorable form for the utterance of the best that is in them.

This is something which I think the university may well propose to itself as one of its high objects: to promote the love of good literature, and to endeavor that no one shall obtain an academic degree who does not know *how to read*—to read between the lines, to read behind the words, to enter through the printed page into a deeper knowledge of life.

I hope that the Rice Institute, with its magnificent outlook toward science, will produce scientific men who shall be at the same time men of true culture, who shall illustrate that type of science whose representatives we have listened to here—men whose knowledge of the facts and laws of the physical world does not blind them to the beauty and power of those ideals, memories, imaginations, and hopes which are perpetuated in literature for the cheer and guidance of mankind.

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PRESIDENT LOVETT: It was at the Sorbonne, I believe, that the first conspicuous public reference to the plans of the Rice Institute was made, and in one of the lectures which, as visiting professor, the last speaker delivered on the "Spirit of America." We have with us on this occasion a distinguished permanent member of the University of Paris. By way of making him feel more at home at the table of this Residential Hall, I venture to remind him that his own ancient university was originally composed of residential colleges, and that the Ecole Normale, whose scientific studies he directs, is itself a residential college. Furthermore, the subject which he represents has a great community of interest both to the scientific and to the lay mind, for mathematics is as fundamental as logic itself to scientific inquiry, and shares with music the distinction of being a survivor of the Tower of Babel. On this high and noble theme I now ask Professor Borel to speak.

PROFESSOR EMILE BOREL: President Lovett has very kindly asked me to speak to you this evening concerning the rôle of mathematics in the domain of culture. It is a subject which seems somewhat dry and rather difficult to treat in an after-dinner speech. Mathematics is rarely considered to be an appropriate subject for conversation by those who are not mathematicians. People generally think that the science of numbers has no very intimate connection with life, and that mathematicians might without great loss to civilization remain shut up in their towers of ivory. Nevertheless, it is impossible not to recall that twenty-five centuries ago, under a sky as beautiful as is yours, it was precisely through abstract speculations that the great geometers began the liberation of the human reason. From these speculations geometry, algebra, mechanics, astronomy, and physics have



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sprung. Through the logical play of his reason man has given himself an account of the laws which regulate the world. He has come to comprehend that blind chance does not preside over the destinies of the universe, and that the concepts accessible to the mind of geometers can serve to penetrate the great laws of nature. Therefore he has come to use these laws for the profit of human civilization. Accordingly, the mathematical reason is the basis of man's conquest of the universe. Is it not by virtue of mathematics that navigation of the seas has become possible? If the thinkers had not meditated upon certain abstract laws, could any vessel have been able to plow through the waves of the Atlantic? It is to mathematics that Christopher Columbus owed, exactly four hundred and twenty years ago, his ability to reach in safety these unknown shores. And they are the heirs of Greek thought who, realizing the great scientific movement of the seventeenth and eighteenth centuries, have made possible the great industrial inventions of the nineteenth century, the organization and conquest of the globe by human civilization.

The mathematicians are the pioneers of science. Often indeed their work is several centuries in advance of practical applications, but, without their works, discoveries the most admirable would have failed of any practical application. It is not sufficient to observe the facts: it is necessary to know the laws which govern these facts. Every one knows that the stone he drops will fall to the ground; mathematics alone has given, with respect to this fact which appears so simple, explications and formulæ which have been permitted most admirable mechanical applications.

The Rice Institute preserves by the side of letters and art a place for the sciences—for the mathematical sciences among others. In addition to the practical utility of which



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I have just spoken, the mathematical sciences have an intellectual utility in the development of the human spirit. They accustom the intellect to the use of a rigorous and clear-cut logic; they render the understanding tractable to finesse of intuition and induction. I trust that in so magnificent a new university as is the Rice Institute mathematics may make many adepts. For if mathematical culture should be removed from the world, scientific culture would become as a tree whose roots had been cut. And in conclusion I raise my glass to Mathematics and the prosperity of the Rice Institute.

PRESIDENT LOVETT: The gentleman who has just spoken would agree with Gauss that mathematics is "the queen of the sciences." The eminent philosopher who is about to speak would insist that philosophy is the science of the sciences, the glory and the guardian of all the sciences. We have paid our tribute to philosophy on the chief stone of our first building, where one may read the tribute Democritus paid to science for its own sake when he exclaimed: "Rather would I discover the cause of one fact than become king of the Persians." This fine expression of the spirit of science on the part of the ancient Greek philosopher is rather more generous than is the attitude of the average modern scientist toward philosophy.

The intensely human philosopher on my left has told me in conversation this evening that to get a speech out of him to-night it would be necessary to stir his temper. It is in the affection inspired in all of us by the earnest appeal of his discourse as the sun was setting last evening that I venture to apply the necessary lash. To him there may perhaps be some stimulus in that ancient characterization of a metaphysician—a characterization so old, in fact, that the mind

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of man runneth not to the contrary—namely, that a metaphysician is a blind man in a dark room groping after a black cat—that is not there! Ladies and gentlemen, I have very great pleasure in asking Professor Sir Henry Jones to tell us what Philosophy is.

PROFESSOR SIR HENRY JONES: Surely the hour of parting has come, if it is to come at all, and my stay amongst you is not to be permanent. It is not only the smallness of the hours of the night that suggests it, but the words we have just heard from the president. For what he has said indicates all too clearly that matters are maturing fast toward that condition when parting will be impossible. He has made himself so lovable that his very incivilities are adorable. And incivilities they are! What more incivil thing could he suggest to a votary of Philosophy than that his goddess is antiquated—that he belongs of right to ages long past, and civilizations whose sun has set, and is out of place in a country where the sun is just rising and the fullness and joy of the day is all to come?

And yet I thank him for that word. I shall connect it always with a memory which will remain extraordinarily impressive to me—of the first plea ever made for Philosophy in your new Institute. We were considering some of the things that matter most, contemplating for a brief moment some of those truths which, because they belong to the moral structure of the world, cannot come to be nor pass away, and have neither beginning nor end, but remain stable forever. The level rays of the sun, far-flung over the lonely prairie which begins from the building wherein we sat, struck through the windows of the lecture-hall, and they were saturated with the beauty of some nameless color, and carried with them far into the heart of the audience a most strange

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sense of silence and tranquillity. I felt anew the truth of the word of the wise man who said that "Philosophy does not appear until some form of civilization has grown old." Then, indeed, it gathers up its meaning and treasures it for the ages still to come. So that it is to Philosophy, whether it be in the form of art or that of contemplative reason, we owe now the spiritual inspiration of the life of Israel, the natural glory of the life of Greece, and the stately civic order of the life of Rome. We did well to meet in the evening at the altar of her goddess. The owl of Minerva, the bird of wisdom, does not set forth on its flight till the twilight begins to fall.

But what is Philosophy? some of you may ask. Science we know, and Art we know, and Literature we know: to these we have dedicated our Institute; but who or what is Philosophy? I am tempted to define it just as that for which there is no provision in the Rice Institute; but I would like to add to the definition, that provision *will* be made, and more amply when the Institute matures. "You wait," said a Chicago man to a Boston man who had taunted him with sticking pigs as the only form of culture in his city—"you wait till we have stuck a few more pigs, and Chicago will make culture hum!" There have been times in the world's history, or at least in that of the most beneficent of the nations, when Philosophy, the contemplative reconstruction of experience, the converse of the human spirit with itself, by which it makes its treasures its own, was their crowning achievement and the most splendid of all their enterprises. And that time will, I believe, come yet to you in this great country.

Another definition of Philosophy has occurred to me since coming into this room, on hearing the delightful speech of Professor Emile Borel of Paris. It is the study to which



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great mathematicians are prone to turn when their minds mature. Plato, the broad-browed, in whose writing poetry and philosophy, beauty and truth, mingled their pure broad streams; Aristotle, possibly the greatest sheer intellect that the world ever saw, who fixed even until this day the provinces of so many of the sciences; Descartes, the greatest philosopher that France ever knew, and the prophet of the dawn of the modern world; Spinoza, probably the most seraphic of all great thinkers; Leibnitz, one of the most many-sided; and Immanuel Kant, with whose thinking modern civilization, like a broad river striking a granite bank, has taken its last great turn—all these were amongst the greatest, if not *the* greatest mathematicians of their day.

It was entirely natural that these great, grave, reflective spirits should be led, as life advanced, to consider those problems which, as they spring from the very nature of truth, reason cannot set aside and prosper. And it was not less natural that the severity of the method of the mathematical sciences should make them strong in the service of Philosophy, where, if possible, severity of method is at once more necessary and more difficult. For Philosophy sets man to strive to comprehend the working, not merely of natural agents as the sciences do, but of the experience in which the meaning of nature in its relation to man, and of man in his relation to nature, is arrested. It deals with the finer spirit, and the final issues, for it deals with facts as embodied in the world of interrelated minds and intersecting and yet co-operating wills which civilization is. Laxity of method, tendencies toward prejudices, antipathy save to error, love except for truth, are in this region fatal. For here we are dealing with ultimate values.

A great day is coming when man shall comprehend the working of his own spirit to the degree in which the sciences

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reveal the meaning of nature; though these latter are themselves, no doubt, only at the beginning of things. For Philosophy is meant to crown the work of Science, even as Man, we believe, is the consummation of the natural scheme.

Then, too, the affinity of Philosophy with Art, and especially with the Art of Poetry, will become manifest. For, in my opinion, the poet and the philosopher are very much akin. They are, as a rule, both present and in power where the history of mankind shows that new times have come to the birth. If you were to ask me who in the English-speaking world were the greatest philosophers, I should be tempted to name the poets in prose and verse, especially Carlyle, Wordsworth, and Browning.

But the night is far spent, and the theme is too great except to touch its margin. I can wish nothing better for the Rice Institute than that it may for many centuries to come be the fostering home of Art, Science, and Philosophy. You have treated me and my fellow-guests with extraordinary kindness, and if you can entertain a philosopher so well now, I have no doubt that ere long you will "entertain that stranger"—Philosophy.

PRESIDENT LOVETT: In thanking Professor Sir Henry Jones for his eloquent apology for philosophy, I venture to say that our scheme of studies has been so arranged in the belief that if philosophy and science are to go hand in hand in our day, as they did in the earlier days of human thought, it becomes more and more necessary that the student of philosophy should have considerable acquaintance with chemistry, physics, biology, and the other experimental sciences before entering upon the serious study of philosophy itself. We have among our guests the distinguished mathematical physicist of the University of Rome, whose re-



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searches have ranged from the physics of the earth through the physics of the ether to the motions of the heavenly bodies themselves. I have the honor of asking Professor Senator Vito Volterra to respond for this fundamental field of knowledge, wherein pure mathematics has met with some success the problems of the physical universe.

PROFESSOR SENATOR VITO VOLTERRA: Without doubt we shall never forget the days that we have spent at Houston. I do not hesitate to call the inauguration of such an institute as this an historic event: it is one that will have consequences of great importance for culture in general. Beginning in this impressive manner, endowed with means so large, directed by men so eminent, it is sure to have a considerable influence on the development of science.

It would not fit the case exactly to speak of pure science and of applications. By giving a solid base to culture, you are certain to prepare the new generations not only to contribute to scientific progress, but also to be ready to apply the resources of science to its most useful applications.

The physical sciences, pure physics in the most general sense of the word, give the most opportune illustration of what I have just said. It is sufficient to consider the developments that have taken place in the last few years, and the influence that these developments have had on the general concept of science that the public has found for itself. In the development of physics, the most completely theoretical part, which we call mathematical physics, and the experimental part, have always progressed side by side, each an aid to the other. Some branches, indeed, that at first sight seem far remote, we observe upon closer inspection to have had considerable influence on each other.

Consider, for instance, the case of astronomy, or, more

HARVARD UNIVERSITY

accepts with pleasure the kind invitation of the  
President and Trustees of  
The Rice Institute  
in the  
City of Houston, Texas

to be represented by a delegate at the exercises attendant upon the opening of the Institute to be held on the tenth, eleventh, and twelfth of October, nineteen hundred and twelve, and has appointed as its delegate on that occasion, Harry Yandell Benedict, Ph.D., Professor of Applied Mathematics at the University of Texas.

Given at Cambridge on the first day of October in the nineteen hundred and twelfth year of our Lord and of Harvard College the two hundred and seventy-seventh.



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precisely, celestial mechanics. It seems entirely theoretical and abstract. Yet from where came the concept of potential? Laplace introduces it into the subject of celestial mechanics in order to study in a simple mathematical way the laws of universal gravitation. Now little by little the idea of potential was carried from the domain of celestial mechanics to that of static electricity. After that it was introduced into electrodynamics. And, different only in form, when electricity was brought to the hands of the whole world, it was acquired by the workers in electricity and the people. In a word, potential took its point of departure in integral calculus, but is now used by everybody.

Mr. Borel spoke to us, in his fine lecture, of certain functions, very complicated and difficult to study, that appear in analysis. They are to be applied to modern physics. Let us hope that they have a future comparable with that of the potential function.

The greatest progress in physics has taken place doubtless in the subjects of electricity, optics, and the theory of heat. At first widely distinct, they have become little by little closely connected; and if a scientist of a hundred years ago should behold their modern development he would be quite surprised to perceive that optics has become a special branch of electrodynamics, and that electricity is merely one chapter in a general theory that includes as special instances the theory of gases and the conduction of heat and electricity. And finally he would notice that the theory of energy dominates all branches of natural philosophy.

According to Descartes, mechanics was the basis of all physics. It has undergone many changes, and in the view of many scientists will cease to play that principal rôle and become a special branch of energetics. According to others, it will be modified in its most fundamental laws and become

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an entirely new organum, completely without the bounds of classical mechanics.

Who can tell what the future prepares for us? New marvels are quite likely to follow those which have lately startled us. Probably many of the hypotheses that now serve us usefully must fall. They constitute merely the light scaffolding by means of which we erect a great building.

Beginning to-day, I see the Rice Institute, by means of its professors and students, drawn into the scientific progress of the future. I raise a glass and drink to the future of this institute, to its glory and service in the culture of America and the world.

PRESIDENT LOVETT: We have reached the keystone of our arch. In calling for the formal toast to "Science," I beg to remind you that the spirit of this university of science has been cut in two tablets of stone on the walls of its chief building. On one of them the Greek Aristotle says, "If we properly observe celestial phenomena, we may demonstrate the laws which regulate them," and on the other the Hebrew Job says, "Speak to the earth, and it shall teach thee." It is with peculiar pleasure that we have requested Professor Conklin of Princeton University to make this response; for, as one of the members of our first advisory committee, we greet him, not as a stranger, but as one on whose counsel we leaned even before any of our aspirations had begun to assume definite or concrete form. In his double capacity as professor of biology in Princeton University and expert adviser to the Rice Institute, I have the honor of introducing to you Dr. Edwin Grant Conklin, who will speak to the toast "Science."

PROFESSOR EDWIN GRANT CONKLIN: During this academic festival we have seen everywhere, on banners and



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programs, on ice-cream and cakes, the seal of the Rice Institute with its three owls. In poetry and classic lore the owl is the bird of Minerva, the symbol of wisdom, but in fact and natural history he is the bird of night, and it was not until this dinner had lasted long beyond the night's key-stone that the real inner significance of this seal dawned upon me—namely, the *three-owl power of the Rice Institute*.

But considering these owls on the seal as birds of wisdom, I ask you to observe their positions and names: two are on the roof or in the air, and one is in the coop or on the ground. The two in the air are labeled "Literature" and "Art," the one on the ground or in the coop is labeled "Science."

I am to speak for a kind of learning which is thought by some persons to have no wings, which "moves but slowly, slowly, creeping on from point to point"; which many consider as not only groveling, but as narrow in outlook and material in its tendencies. I wish to show that the chief debt of civilization to Science is not for material comforts, but for intellectual freedom and enlightenment; that while Science plants her feet on the solid ground of nature, she moves with her head among the stars.

The great aim of Science is to know and control nature, not merely for the purpose that man may obtain the golden touch, not that all things may be made to minister to his comfort, but rather that he may know the truth, and that the truth may set him free.

The wonderful material changes wrought by science, such as the developments of steam, electricity, and great engineering enterprises, and the consequent increase of comforts and enlargement of human experience; the remarkable growth of the applied sciences of chemistry, physics, biology,

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and geology; and, perhaps most of all, the revolutionary changes in medicine, surgery, and public health which have followed a scientific study of the causes and remedies of various diseases, are liable to blind us to other great achievements of science, which, if less material, are none the less real and valuable.

1. First among all the services of science must always be reckoned its liberation of man from the bondage of superstition. We can never fully realize the terrors of a world supposed to be inhabited by demons and evil spirits, a world in which all natural phenomena are but the expressions of the love or hatred of preternatural beings. But we may gather from history and from present-day ignorance and superstition some faint idea at least of the ever present dread, even amidst happiness and joy, of those who feared Nature because they knew her not, of those to whom the heavens were full of omens and the earth of portents, of those who peopled every shadow with ghosts and evil spirits, and who saw in all sickness, pain, adversity, and calamity the cruel hand of a demon or the evil eye of a witch.

It is frequently assumed that the decline of superstition is due to the teachings of religion or to the general development of the intellectual powers of man, and there is no doubt that to a certain extent this is true. The general advance of the intellect, in so far as it is associated with truer views of Nature, is unquestionably inimical to superstition; yet the persistence of such a superstition as that concerning witchcraft through periods of great religious and intellectual awakening, the almost universal belief in it throughout the golden age of English literature, the statutes of all European countries against the practice of witchcraft, sorcery, and magic, some of which remained until the beginning of

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the nineteenth century—all these things show that however religion and general intelligence may have curbed its cruel and murderous practices, its downfall could be brought about only by a more thorough knowledge of Nature. The common belief that insanity, epilepsy, and imbecility were the results of demoniacal possession necessarily led, even in enlightened and Christian communities, to cruel methods of exorcising the demon, and the final disappearance of this superstition (if it may be said to have disappeared even at the present day) is entirely due to a scientific study of the diseases in question.

The same might be said of any one of a hundred forms of superstition which, like a legion of demons, hedged about the lives of our ancestors. As false interpretations of natural phenomena, only truer interpretation could displace them; and what centuries of the best literature, philosophy, and religion had failed to do, science has accomplished. Science is, as the elder Huxley has said, organized and trained common sense; and nowhere is this better shown than in its rational, common-sense way of interpreting mysterious phenomena. No doubt much still remains to be accomplished; the unscientific world is still full of superstition as to natural phenomena, but it is superstition of a less malignant type than prevailed before the general introduction of the scientific method.

Furthermore, the cultivation of the natural sciences has done more than all other agencies to liberate man from slavish regard for authority. When all others were appealing to antiquity, the Church, the Scriptures, Science appealed to facts. She has braved the anathemas of popes and church councils, of philosophers and scholars, in her search for truth: she has freed from ecclesiastical, patristic, even academic bondage; she has unfettered the mind, enthroned



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reason, taught the duty and responsibility of independent thought, and her message to mankind has ever been the message of intellectual enlightenment and liberty: "Ye shall know the truth, and the truth shall make you free."

2. But Science has not only broken the chains of superstition and proclaimed intellectual emancipation: she has enormously enlarged the field of thought. She has given men nobler and grander conceptions of nature than were ever dreamed of before. Contrast the old geocentric theory, which made the earth the center of all created things, with the revelations of modern astronomy as to the enormous sizes, distances, and velocities of the heavenly bodies; contrast the old view that the earth was made about six thousand years ago—5670 years last September, to be exact—in six literal days, with the revelations of geology that the earth is immeasurably old, and that not days but millions of years have been consumed in its making; contrast the doctrine of creation which taught that the world, and all that therein is, recently and miraculously were launched into existence, with the revelations of science that animals and plants and the world itself are the result of an immensely long process of evolution. As Darwin so beautifully says, "There is grandeur in this view of life with its several powers having been breathed by the Creator into a few forms or into one, and that whilst this planet has gone cycling on according to the first law of gravity, from so simple a beginning endless forms most beautiful and most wonderful have been and are being evolved." There is grandeur in the revelations of science concerning the whole of nature,—grandeur not only in the conceptions of immensity which it discloses, but also of the stability of nature. To the man of science nature does not represent the mere caprice of God or devil, to be lightly altered for a child's whim. Nature is, as Bishop Butler says,

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that which is stated, fixed, settled, eternal process moving on, the same yesterday, to-day, and forever. Men may come and men may go, doctrines may rise and disappear, states may flourish and decay, but in nature, as in God himself, there is neither variableness nor shadow of turning. The all too prevalent notion that nature may be wheedled, cheated, juggled with, shows that men have not yet begun to realize the stability of nature, and indicates the necessity of at least some elementary scientific training for all men. "To the solid ground of Nature trusts the mind that builds for aye."

3. Science has changed our whole point of view as to nature and man, and science cannot therefore be eliminated from any system of education which strives to impart culture. It is not principally nor primarily in its results, however great they may be, that the chief service of science is found, but rather in its method. In a word, the method of science is the appeal to phenomena, the appeal to nature. To the scientist the test of truth is not logic, nor inner conviction, nor conceivability and inconceivability, but phenomena, or what are commonly called facts. The steps of this appeal to phenomena are first observation or experiment; then induction, hypothesis, or generalization; and finally verification by further observations, experiments, and comparisons. The methods of science have now invaded to a greater or less extent all domains of thought,—philosophy, literature, art, education, and religion,—and the unique character of the method of science may not be fully appreciated except upon comparison with pre-scientific or non-scientific methods.

Of course one need not expect to find any proper appreciation of the scientific method among the ignorant, but it is amazing how such appreciation is lacking among many



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otherwise intelligent and cultivated people. We daily see innumerable cases where the test of truth is the appeal to superstition, to sentiment, to prejudice, to inner conviction—in short, to anything rather than facts.

Consider for a moment the art of healing, as contrasted with the science of medicine; the various “schools of medicine,” and much more those who never went to school, appeal not to carefully determined, accurately controllable phenomena, but largely to sentiment, prejudice, and superstition. The same is true of the “fake” science which flourishes mightily in the daily papers, and especially is it shown in the hypotheses, discoveries, and dogmas of those who determine the laws of nature from introspection and construct the universe from their inner consciousness.

Every little while there arises a new and brilliant Lucifer who draws after him a third part of the hosts of heaven. Though he appears under many guises, such as divine healer, Christian Scientist (Heaven save the mark!), spiritualist, theosophist, telepathist, the main tenet of his belief is always the same—a revolt against the scientific method of appealing to phenomena.

What is the remedy for such a state of affairs? A little first-hand knowledge of scientific methods. The appeal to facts is the very foundation of science, and it is a method in which every person, and particularly every student, should receive thorough and systematic training.

To me it seems that there is no part of an education so important as this, none the lack of which will so seriously mar the whole life. Of course it is not claimed that all scientists best illustrate the scientific method, nor that it may not be practised by those who have not studied science, but that this method is best inculcated in the study of the natural sciences. Science not only appeals to facts, but it cultivates

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a love of truth, not merely of the sentimental sort, but such as leads men to long-continued and laborious research; it trains the critical judgment as to evidence; it gives man truer views of himself and of the world in which he lives, and it therefore furnishes, as I believe, the best possible foundation, not only for scholarship in any field, but for citizenship and general culture.

But culture is not some definite goal to be reached by a single kind of discipline. There is no single path to culture, and the great danger which confronts the student of the natural sciences is that his absorption in his work may lead to a narrowness which blinds him to the broad significance of the facts with which he deals and unfits him for association with his fellow-men. A technical education which deals only with training for special work, without reference to foundation principles, may be useful and necessary, but it cannot be said to contribute largely to culture. What teacher has not been surprised and pained by the fear which some students exhibit that they may waste an hour on some subject the direct financial value of which they do not see,—students who fail to grasp general principles, to take a broad and generous view of life, to appreciate good work wherever done? The scientist no less than the classicist or the humanist should know the world's best thought and life. Life is not only knowing but feeling and doing also, and other things than science are necessary to culture. The day is forever past when any one mind can master all sciences, much less all knowledge; there can never be another Aristotle or Humboldt; nevertheless, in the demand for broad and liberal training the greatest needs of scientific work and the highest ideals of culture are at one, and this Institute can serve no more useful purpose than to stand for the highest, broadest, and most generous views of science, of education, and of life.

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PRESIDENT LOVETT: If the manifold ramifications of the modern spirit of research and scientific inquiry have resulted in a corresponding multiplication of the sciences, that same method is constantly striving through their mutual relations to restore to science its unity. Physics and biology, the fundamental sciences of the inorganic and the organic world, respectively, find a meeting-ground in chemistry. Chemistry stands out in the history of science with as romantic a background as is that possessed by astronomy. The one began in astrology and the desire of man to read his fate in the stars; the other began in an alchemy which reflected a corresponding desire to find the fortune of gold in all the baser elements of earth. Professor Sir William Ramsay, in his inaugural lecture this morning, showed us how he has been bringing all that romance within reach of realization. He has consented to respond still further for Chemistry this evening.

PROFESSOR SIR WILLIAM RAMSAY: I did not know anything was expected of me to-night, and I will not disappoint you if at this very late hour of the night I suggest that speech should be extremely brief.

The subject of chemistry is a very large one, and if I were to try to explain it to you, I think I should have to treat you to an account of what has been accomplished by all chemical students. If you are prepared to listen, I shall be delighted to go on; and, if you like, I can begin with the beginning of chemistry and lead you straight through the old and modern history of chemistry.

Chemistry plays a considerable part in the welfare of mankind, and, as the last speaker has said, the scientific man regards it from the point of view of curiosity to know how the little wheels go round. I have always had such curiosity;





# THE POLISH UNIVERSITY

IN  
LWÓW (LEMBERG), GALICIA, AUSTRIA.  
WISHES TO CONVEY TO THE

## RICE INSTITUTE

IN  
HOUSTON, TEXAS,  
ON THE DAY OF ITS INAUGURATION ITS GREETINGS AND HEARTIEST WISHES  
FOR A FAVOURABLE DEVELOPEMENT.

WE HAVE WITH PLEASURE RECEIVED YOUR COMMUNICATION WITH THE NEWS OF THE  
FOUNDING OF A NEW SPLENDID TEMPLE DEDICATED TO  
KNOWLEDGE AND EDUCATION ON AMERICAN SOIL, WHERE SO MANY POLES ARE LIVING  
FOUNDED BY THE LIBERALITY OF YOUR NOBLE COUNTRYMAN

## WILLIAM MARSH RICE

ERECTED AND ORGANISED WITH FORESIGHT AND CARE BY YOUR GREAT CITIZENS AND SCHOLARS,  
IT WILL BECOME A FRUITFUL FOUNT OF EDUCATIONAL WORK THROUGH WHICH  
YOU FILL OLD EUROPE WITH AMAZEMENT.

BLESSED IS THAT LAND WHICH POSSESSES SUCH SONS.  
HAPPY IS THE COUNTRY IN WHICH, THANKS TO THE LIBERALITY OF ITS CITIZENS,

PALACES ARE ERECTED  
FOR CULTIVATING AND EXTENDING HUMAN KNOWLEDGE.  
UNITED TO YOU BY THE BONDS  
OF COMMON ASPIRATIONS WE SEND ACROSS THE SEA  
TO THE HANDS OF YOUR  
MOST HONOURABLE PRESIDENT

## EDGAR ODELL LOVETT

THE OLD POLISH WISH OF

„SZCZĘŚĆ BOŻE“

(GOOD LUCK)

FOR YOUR WORK IN FURTHERING  
THE GREATEST GOOD  
OF  
MANKIND.

*Attest Book.*

H. T. RECTOR  
OF THE UNIVERSITY OF LWÓW.





## BOOK OF THE OPENING

but I think I may speak for every true man of science who takes the trouble to investigate nature, if I say that women ought to be the best chemists; for Eve was the first and most curious of God's creatures.

It is said to be owing to her action that the state of affairs which we see around us now was produced; and possibly, in the days of the future—the time when men have been excluded from the vote, and when the country is ruled by women—the courage which is inherent in success will again appear. I remember a saying which struck me at the time as very true, and by no means discourteous to women; it is, that women take more interest in persons, while men are more interested in things.

I am sure that you will find that there are few women who devote themselves to any source or branch of knowledge, except for the love of some man whom they elect to follow. As for us men, we shall continue the researches with as much vigor as we have up to now bestowed upon them. We are continually approaching a goal which can never be reached; and it is as well that it is unattainable, for it would be selfish in us to wish to find out everything and leave nothing for our successors. That is impossible; the world of knowledge is illimitable, and no words are available to express its infinite extent. Newton, the great natural philosopher, said once that we are all like children on the sea-shore, picking up here and there a pebble, while the vast ocean of knowledge is spread at our feet. We are lucky if we find pebbles; those of us who try pick up small and not very valuable stones for the most part.

The work of the man of science is in some degree creative; and I say that this spirit of creation is not confined to the scientific man, but is common to the artist, to the man of letters, and even to the philosopher. It is the spirit which

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impels us forward on the road which we must travel, and the great pleasure of those of us who feel in that way must be to induce others to travel along the same road. There is no greater pleasure than to see one's disciples succeed, no greater pleasure than to feel that they are pushing along the road which leads to victory, and doing something for the ultimate happiness and benefit of the human race.

PRESIDENT LOVETT: When the history of the nineteenth century comes to be written, it is doubtful whether that century will stand out more prominently as a century of science or a century of history. From some points of view, the history of historians in the nineteenth century is almost as fertile in ideas as is the history of scientists in that same period. If history has been assuming more and more the characteristics of a science, it should nevertheless be losing none of its character as an art. If history has become a subject of scientific research, not in laboratories but in archives and excavations, it still must be more than chronology, more than critical survey and systematization of sources; for to be great, as the father of history made it great, it still must be great as literature. Those of you who listened to the eloquent lecture of Professor Altamira this morning will welcome him again heartily to-night as an able exponent of this double aspect of history.

PROFESSOR RAFAEL ALTAMIRA: I should like nothing better than to undertake an apology for historical studies in the same fashion as I have seen my colleagues to-night present apologies for other scientific fields, but I find that the night is too far spent to engage myself in the arguments and explications which in the face of the vulgar skepticism concerning the subject of history refuse to be summarized either readily

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or succinctly. I prefer, therefore, to limit the representation of my studies on this occasion to recalling an historic event which most naturally jumps to mind at this time. Ladies and gentlemen, it is just past midnight. The eleventh of October gone, we have arrived at the unforgettable date of the twelfth of October; that is to say, we have come to the day on which, four hundred and twenty years ago, Christopher Columbus with his Spanish boats and sailors arrived at the first of the American countries to become adequately known to Europeans. This event, which had quite another object than that of discovering a new world, was nevertheless the cause of a great change, by which the old continent of Europe, distressed by profound crises of conscience, yet illuminated by the light of the Renaissance of learning and scientific discovery, renewed history by passing from the régime of simple commerce with people anthropologically different from themselves to that of the emigration and the founding of new nationalities from the same stock.

Permit me to recall that to Spain belongs the glory of having promoted this new era in human life, and of having sent forth the first elements of population and European civilization to America. Any consideration of the processes which have been necessary to change the America of the fifteenth and sixteenth centuries into the America of the twentieth century, so full of lessons for human psychology and human education, is of itself sufficient to justify the importance of historical studies. Nowhere in the whole sphere of human knowledge could a man find a subject more worthy of study and reflection. But this is not the moment to enter upon such a study. I can do no more than recall to your thought Christopher Columbus and his companions, and ask you to think of them with thoughts full of appreciation and admiration. This Spain of which they were a part, and



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which is forever linked by them to America, says to you through my voice at this solemn hour for Houston:

*"Viva el Instituto Rice!"* ("A long life to the Rice Institute!")

A more sincere toast, or one fuller of meaning, I know not how to utter.

PRESIDENT LOVETT: Comparable with the wealth that followed in the wake of the memorable expedition of the illustrious Christopher Columbus in the *Santa Maria*, the *Niña*, and the *Pinta*, to which Professor Altamira has so pertinently alluded, is the wealth to human thought that Charles Darwin brought back from a similar voyage of discovery made in the *Beagle* some three hundred years later. I should hesitate to place letters, philosophy, history, and art in anything approximating a logical sequence; but in arranging the order of responses I had no hesitation in placing mathematics, physics, chemistry, and biology in the order in which their representatives appear here to-night, for mathematics is indispensable to the physicist, mathematics and physics to the chemist, and mathematics, physics, and chemistry to the biologist. Thus we have in biology a crown of the sciences. To make this crowning response for science I have great pleasure in calling upon Professor Hugo de Vries of the University of Amsterdam, whom others, much more competent to speak than I, have characterized as the lineal successor of the illustrious Charles Darwin.

PROFESSOR HUGO DE VRIES: It is with great satisfaction that we have seen the foundation of this new Institute. No country has such a large number of universities on so small a tract of land as has my native country—Holland. Nowhere are the relations between science and practice so intimate as with us, and nowhere is the influence of research work

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and teaching on the education of the people and on the increase of wealth and prosperity more evident than with us. Therefore I cordially sympathize with your work, and think that the best thing William Marsh Rice could have done for his beloved Texas was the foundation of a center of education and learning, which should gradually become a constantly increasing source of evolution on the highest lines. The Southern States want to show to all civilized nations that they are evolving on the same broad lines, and have the means and the will of rivaling them in all those things on which the progress of civilization depends. William Marsh Rice has incorporated this idea in the form of an institution of learning, and the trustees of his foundation have developed it to the high standing of a young university.

I esteem it a favor to express my sincere thanks to the trustees and the president for the kind hospitality I have enjoyed as their guest. I am very glad to be present here and to have the distinguished honor of participating in the dedication of the Rice Institute.

In the play of "Hamlet," Shakspeare says: "There are more things in heaven and earth than are dreamt of in our philosophy." It is the task of science mainly to find out all these things in heaven and on earth which are still unknown to us, and there are so many of them that we want collaborators all over the earth. We want from you collaboration; and from the things I have seen to-day in the beginning of this young Institute, I may predict a proud future in scientific research as well as in educational work.

Such a proud future I may predict, and heartily wish it to the president and Board of Trustees of this great Institute, which has been made possible by the money of William Marsh Rice and the brain of Edgar Odell Lovett.

I drink to the prosperity of the Rice Institute.



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PROFESSOR SIR WILLIAM RAMSAY: I don't know whether the ceremony is ended or not, but there is one thing we ought all do to-night, and that is drink to the health of your president, Edgar Odell Lovett.

At this late hour it is obviously not expedient to make a long oration in which his many virtues should be chronicled; but you will all agree with me that it is our duty, as well as our great pleasure, to thank him, before we part, for all his kindness to us; to congratulate him on the magnificent success of these celebrations, for which he has so arduously prepared; and to wish him and Mrs. Lovett many long and happy years in which to enjoy their life at this Institute, the inauguration of which has been so happily completed.

PRESIDENT LOVETT: I should indeed be short in human feeling were I not deeply touched by your generous response to Professor Sir William Ramsay's gracious suggestion. But, ladies and gentlemen, it is the man I am now about to introduce to you that you should have toasted and cheered, for it is to the genius of his constructive imagination that we owe all the beauty of this place. The appeal of these beautiful buildings is his appeal—an appeal that places beauty of art alongside of beauty of truth and beauty of holiness. In the walls of the first of these monuments which he conjured from the civilizations of southern climes we have caused to be carved: "The chief function of art is to make gentle the life of the world," and "The thing that one says well goes forth with a voice unto everlasting." The things that Mr. Cram has wrought so well we have builded in brick and bronze and marble, in the hope that they may endure unto days everlasting. I have the honor of introducing to you the architect of the Rice Institute, who will respond for "Art."

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DR. RALPH ADAMS CRAM: After what fashion shall I, follower of art in a sense, speak on this debatable subject, here at the inauguration of a great institution of culture and learning, and before you, its earliest and forever most honored guests, who, personally and officially representing Church, State and School, here and now pay tribute to that great power whose duty it is to lead onward and forward every child born of man, until, man at last, he is worthy to play his part in the life that opens before him of service and charity and righteousness and worship?

I might speak of art historically, as the perfect flowering of sequent epochs of civilization, as the evanescent record of man's power of great achievement, as a glory of history in Homer and Phidias, in Virgil and Arthemius of Tralles, in Ambrosian chant and Gregorian plain-song, in the Arthurian legends and the Nibelungenlied, in Adam of St. Victor and Dante, in Cimabue and Giotto and their great successors; in the cathedrals and abbeys of medievalism, in the sculptures of Pisa and Paris and Amiens, in Catholic ceremonial, in the glass of Chartres, the tapestries of Flanders, the metal-work of Spain; in the drama of Marlowe and Shakspeare, in the music of modern Germany, in the verse of the English Victorians. I might speak of art as an ornament and amenity of life, a splendid vesture covering the nakedness of society. I might speak of it in its economic aspect, or as the handmaid and exponent of religion.

Art is so great a thing, so inalienably a heritage and a natural right of man, it has all these aspects, and more, but for the moment I narrow myself to yet another consideration—the function of art as an essential in education.

The adjective may strike you strangely—an essential element—not an accessory, an extension; but I use it with intention, though to justify such use I must hasten to disavow

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any reference to the teaching of art as this now obtains either in art-schools or under university faculties of fine arts. It is, I admit, hard to conceive such teaching as being of necessity an integral part of any scheme of general education, however efficient it may be when viewed in the light of its own self-determined ends, and I should expect from no source endorsement of any argument for the universal necessity of an art education conceived on similar lines; but I plead for a higher, or at least broader, type of such teaching, because I try to place myself amongst those who set a higher estimate on art, conceiving it to be not an applied science or a branch of industrial training, nor yet an extreme refinement of culture study, but simply an indispensable means toward the achievement of that which is the end and object of education—namely, the building of character.

There were days, and I think they were very bad old days, when it was held that education should take no cognizance whatever of character, of the making of sane, sound, honorable men and women, but only of mental training and mental discipline. Then it was said with grave assurance that it was not the province of public education to deal with religion, ethics, or morals, except from a strictly historical and conscientiously non-sectarian standpoint, and that the place for the teaching of these things was the Home—spelled with very large capitals. After a while the compulsion of events forced a readjustment of judgments and we became conscious of the fact that a combination of influences—amongst them our very schools themselves—had resulted in the production of homes where neither religion nor ethics was taught at all, and where conscious character-building was of the most superficial nature, while the concrete results were somewhat perilous to society. Struck at last by the fact that our most dangerous criminal classes





*The President, Council, and Fellows of THE ROYAL SOCIETY OF LONDON for promoting Natural Knowledge send cordial congratulations to the Governors and Staff of THE RICE INSTITUTE, at Houston, Texas, on the initiation of the active scientific career of that important foundation.*

*They trust that THE RICE INSTITUTE has a brilliant career before it, as a centre of enlightenment and discovery, for the advantage of the whole world, and in particular of the great State in which the Institute has its seat.*

*Signed on behalf of the ROYAL SOCIETY OF LONDON  
for promoting Natural Knowledge*

*September 1912*

*Arch. Gribble*  
*President*





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were made up of those who were extremely well educated, we were compelled, as Walt Whitman says, "to re-examine philosophies and religions," and some of us came to the conclusion that if the schools were to save the day, as they certainly must and certainly could, a new vision was necessary, and that what they were set to do was the bending of all their energies and powers toward character-building, toward the making, not only of specialists, but of fine men and women and good citizens.

Under the old system the significance of art and the part it could play in education were generally ignored; it was treated either as an "extra," as a special study like Egyptology or Anglo-Saxon, and so regarded as the somewhat effeminate affectation of the dilettante, or as a "vocational course," ranking so with mining engineering, dentistry, and business science. So taught, it was indeed no essential element in general education; but if we are right in our new view of the province thereof, it may be that our old estimate of art and its function and its significance needs as drastic a revision, and that out of this may come a new method for the teaching of art.

What is it, then,—this strange thing that has accompanied man's development through all history, always by his side, as faithful a servant and companion as the horse or the dog, as inseparable from him as religion itself; this baffling potentiality that has left us authentic historical records where written history is silent, and where tradition darkens its guiding light? Is it simply a collection of crafts like hunting and husbandry, commerce and war? Is it a pastime, the industry of the idle, the amusement of the rich? None of these, I venture to assert, but rather the visible record of all that is noblest in man, the enduring proof of the divine nature that is the breath of his nostrils.

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Henri Bergson says, in speaking of what he calls—inadequately, I think—intuition: “It glimmers wherever a vital instinct is at stake. On our personality, on our liberty, on the place we occupy in the whole of nature, on our origin, and perhaps also on our destiny, it throws a light, feeble and vacillating, but which nevertheless pierces the darkness of the night in which the intellect leaves us.” Here lies the province of art, where it has ever lain; for in all its manifestations, whether as architecture, painting, sculpture, drama, poetry, or ritual, it is the only visible and concrete expression of this mystical power in man which is greater than physical force, greater than physical mind, whether with M. Bergson we call it intuition, or with the old Christian philosophers we call it the immortal soul.

And as the greatest of modern philosophers has curbed the intellectualism of the nineteenth century, setting metes and bounds to the province of the mind, so he indicates again the great spiritual domain into which man penetrates by his divine nature, that domain revealed to Plato and Plotinus, to Hugh of St. Victor and St. Bernard and St. Thomas Aquinas. As Browning wrote, “A man’s reach must exceed his grasp, or what is a heaven for?”—so, as man himself, transcending the limitations of his intellect, reaches out from the world of phenomena to that of the noumenon, as he forsakes the accidents to lay hold on the substance, he finds to his wonder and amazement the possibility of achievement, or at least of approximation, and simultaneously the overwhelming necessity for self-expression. He has entered into a consciousness that is above consciousness. Words and mental concepts fail, fall short, misrepresent; for again, as M. Bergson says, “The intellect is characterized by a natural inability to comprehend life,” and it is life itself he now sees face to face, not the inertia of material things; and it is

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here that art in all its varied forms enters in as a more mobile and adequate form of self-expression, since it is, in its highest estate, the symbolic expression of otherwise inexpressible ideas.

Through art, then, we come to the revelation of the highest that man has achieved; not in conduct, not in mentality, not in his contest with the forces of nature, but in the things that rank even higher than these—in spiritual emancipation and an apprehension of the absolute, the unconditioned. The most perfect plexus of perfected arts the world has ever known was such a cathedral as Chartres, before its choir was defiled by the noxious horrors of the eighteenth century; when its gray walls were hung with storied tapestries, its dim vaults echoed to solemn Gregorians instead of operatic futilities, and the splendid and dramatic ceremonial of medieval Catholicism made visible the poignant religion of a Christian people. And in this amazing revelation of consummate art, music was more than “a concord of sweet sounds,” painting and sculpture more than the counterfeit presentment of defective nature, architecture more than ingenious masonry; through these and all the other assembled arts radiated, like the colored fires through the jeweled windows above, awe, wonder, and worship of men who had seen some faint adumbration of the Beatific Vision and who called aloud to their fellows, in the universal language of art, the glad tidings of great joy, that by art man might achieve, and through art he might reveal.

Now if art is indeed all this—and the proof lies clear in itself—then its place in liberal education becomes manifest and its claims incontestable. If education is the eduction of all that is best in man, the making possible the realization of all his potentialities, the building up of personality through the dynamic force of the assembled achievements



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of the human race throughout history, and all toward the end of perfecting sane and righteous and honorable character, then must you make art, so understood and so taught, as integral a part of your curriculum as physics or mathematics or biology. Not in dynastic mutations, not in the red records of war, not in economic vacillations or in mechanical achievements, lies the revelation of man in his highest and noblest estate, but in those spiritual adventures, those strivings after the unattainable, those emancipations of the human soul from the hindrance of the material form, which mark the highest points of his rise, presage his final victory, and are recorded and revealed in the art which is their voicing.

The Venus of Melos, "Antigone," Aya Sophia, Gregorian music, Latin hymnology, the "Divina Commedia," Giotto's Arena Chapel, Chartres, Westminster Abbey, "Hamlet," Goethe's "Faust," "Parsifal," "Abt Vogler," are all great art, and as great art beyond price, but greater, more significant by far as living indications of what man may be when he plays his full part in God's cosmogony.

Where is art taught in this sense and to this end? I confess I do not know. Instead we find in many places laboratories of art-industry, where, after one fashion or another, ambitious youth—and not always well advised—is shown how to spread paint on canvas; how to pat mud into some quaint resemblance to human and zoölogical forms; how to produce the voice in singing; how to manipulate the fingers in uneven contest with ingenious musical instruments; how to assemble lines and washes on Whatman paper so that an alien mason may translate them, with as little violence as possible, into terms of brick and stone, or plaster and papier-mâché. And we find names, dates, sequences of artists taught from text-books, and sources and influences taught

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from fertile imaginations, together with erudite schemes and plots of authorship and attribution, but where shall we find the philosophy, the rationale of art inculcated as an elemental portion of the history of man and of his civilization?

Categories, always categories; and we delimit them to our own undoing. There have been historians who have compiled histories with no knowledge of art and with scant reference to its existence; there have been artists who have taught art with no knowledge of history and with some degree of contempt for its pretensions: yet the two are one, and neither, from an educational standpoint, is wholly intelligible without the other. It is through Homer and *Æschylus* that we understand Hellas; through Aya Sophia that we understand Byzantium; through Gothic art that we know medievalism; through St. Peter's and Guido Reni that the final goal of the Renaissance is revealed to us. And so, on the other hand, what, for example, is the art of the Middle Ages if we know nothing of the burgeoning life that burst into this splendid flowering? What are the cathedral-builders to us, and the myriad artists allied with them, when severed from monasticism, the Catholic revival, the Crusades, feudalism, the guilds and communes, the sacramental philosophy of Hugh of St. Victor, and the scholastic philosophy of St. Thomas Aquinas? We build our little categorical box-stalls and herd history in one, art in another, religion in a third, philosophy in a fourth, and so on, until we have built a labyrinth of little cells, hermetically sealed and securely insulated; and then we wonder that our own civilization is of the same sort, and that over us hangs the threat of an ultimate bursting forth of imprisoned and antagonistic forces, with chaos and anarchy as the predicted end.

Again we approach one of those great moments of readjustment when much that has been perishes and much that



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was not comes into being; one of those nodes that, at five-hundred-year intervals, mark the vast vibration of history. For five centuries the tendencies set in motion by the Renaissance have had full sway; and as the great epoch of medievalism ended at last in a decadence that was inevitable, so is it with our era, called "of enlightenment," the essence of which is analysis as the essence of that was synthesis. As medievalism was centripetal, so is modernism centrifugal, and disintegration follows on faster and ever faster. Even now, however, the falling wave meets in its plunge and foam the rising wave that bears on its smooth, resistless surge the promise and potency of a new epoch, nobler than the last, and again synthetic, creative, centripetal.

No longer is it possible for us to sever being into its component parts and look for life in each moiety; for us, and for our successors, is the building up of a new synthesis, the new vision of life as a whole, where no more are we interested in isolating religion, politics, education, industry, art, like so many curious fever-germs, but where once more we realize that the potency of each lies, not in its own distinctive characteristics, but in the interplay of all.

And with this vision we return to the consciousness that all great art is a light to lighten the darkness of mere activity, that at the same time it achieves and reveals. So, as art shows forth man's transfiguration, does it also serve as a gloss on his actions, revealing that which was hid, illuminating that which was obscure.

So estimated and so inculcated, art becomes, not an accessory, but an essential, and as such it must be made an integral portion of every scheme of higher education. A college can well do without a school of architecture, or music, or painting, or drama, and the world will perhaps be none the poorer; but it cannot do without the best of every art in

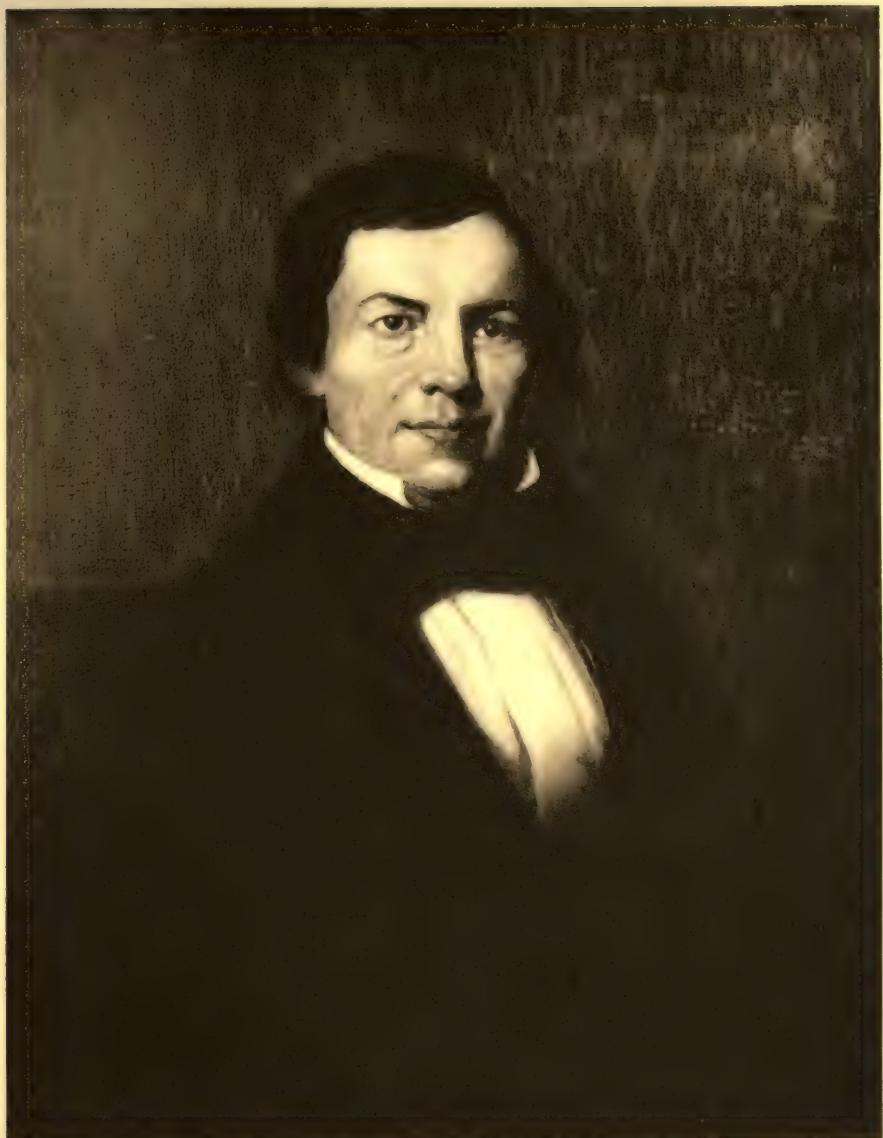
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its material form, and in the cultural influences it brings to bear upon those committed to its charge, nor can it play its full part in their training and the development of their character unless, out of the history of art, it builds a philosophy of art that is not for the embellishment of the specialist, but for *all*.

"Man is the measure of all things," said Protagoras; and with equal truth we can say, Art is the measure of man.

PRESIDENT LOVETT: It is with sincere regret that I bring this meeting to a close. We have listened to philosopher, poet, historian, and architect, to biologist, chemist, physicist, and mathematician, and while we may neither point to the rooms in which Newton lived, as the Cambridge don may do at Trinity College, nor to the laboratories where Pasteur wrought, as may the doctors of Paris, yet from this night forth we shall forever be able to say that at this high table of the first Residential College of the Rice Institute, Altamira, Borel, Conklin, Cram, de Vries, Jones, Ramsay, van Dyke, and Volterra broke bread with us, and spoke to us of the things of beauty and truth that freemen hold dearer than life itself. For them and for you, sound slumber and sweet dreams for the night; and for the morrow, in the words of Kipling, "What all men desire—enough work to do and strength enough to do that work." And as a final favor I am going to ask Professors Sir Henry Jones and Sir William Ramsay to lead us in singing, "Should auld acquaintance be forgot."





*William Marsh Rice, The Founder  
(in Middle Age)*





FORMAL EXERCISES OF  
DEDICATION



## FORMAL EXERCISES OF DEDICATION

DR. ROBERT ERNEST VINSON :

1. The earth is the Lord's, and the fullness thereof; the world, and they that dwell therein.

2. For he hath founded it upon the seas, and established it upon the floods.

3. Who shall ascend into the hill of the Lord? or who shall stand in his holy place?

4. He that hath clean hands, and a pure heart; who hath not lifted up his soul unto vanity, nor sworn deceitfully.

5. He shall receive the blessing from the Lord, and righteousness from the God of his salvation.

6. This is the generation of them that seek him, that seek thy face, O Jacob. Selah.

7. Lift up your heads, O ye gates; and be ye lifted up, ye everlasting doors; and the King of glory shall come in.

8. Who is this King of glory? The Lord strong and mighty, the Lord mighty in battle.

9. Lift up your heads, O ye gates; even lift them up, ye everlasting doors; and the King of glory shall come in.

10. Who is this King of glory? The Lord of hosts, he is the King of glory. Selah.

*Psalm xxiv.*

12. But where shall wisdom be found? and where is the place of understanding?

13. Man knoweth not the price thereof; neither is it found in the land of the living.

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14. The depth saith, It is not in me : and the sea saith, It is not with me.

15. It cannot be gotten for gold, neither shall silver be weighed for the price thereof.

16. It cannot be valued with the gold of Ophir, with the precious onyx, or the sapphire.

17. The gold and the crystal cannot equal it : and the exchange of it shall not be for jewels of fine gold.

18. No mention shall be made of coral, or of pearls : for the price of wisdom is above rubies.

19. The topaz of Ethiopia shall not equal it, neither shall it be valued with pure gold.

20. Whence then cometh wisdom ? and where is the place of understanding ?

21. Seeing it is hid from the eyes of all living, and kept close from the fowls of the air.

22. Destruction and death say, We have heard the fame thereof with our ears.

23. God understandeth the way thereof, and he knoweth the place thereof.

24. For he looketh to the ends of the earth, and seeth under the whole heaven ;

25. To make the weight for the winds ; and he weigheth the waters by measure.

26. When he made a decree for the rain, and a way for the lightning of the thunder :

27. Then he did see it, and declare it ; he prepared it, yea, and searched it out.

28. And unto man he said, Behold, the fear of the Lord, that is wisdom ; and to depart from evil is understanding.

*Job xxviii, 12-28.*

## BOOK OF THE OPENING

12. Then spake Jesus again unto them, saying, I am the light of the world: he that followeth me shall not walk in darkness, but shall have the light of life.

*John viii, 12.*

DR. ROBERT ERNEST VINSON: Almighty God, our Father who art in heaven, we bow our heads with our hearts before Thee this day in humble adoration. Thou art King of kings and Lord of lords, Creator of the heavens and the earth, the same yesterday and to-day and forever, God over all, blessed forevermore. Thou art worthy of the admiration of all intelligent creatures. The heavens declare Thy glory and the firmament showeth forth Thy handiwork.

Thou art the author and source of all life and of all good. Thou art the maker of our bodies and the fashioner of our spirits. Thou openest Thine hand and satisfiest our desires with the desires of every living thing, Thou hidest Thy face and we are troubled, Thou takest away our breath, we die and return again to our dust. Thou art the sustainer and the disposer of our days. Our times are in Thy hand. Thou hast made us for Thyself, that we might show forth Thy praise.

We render Thee most hearty thanks for all Thy great goodness unto us, the children of men. Thy mercies are new every morning and fresh every evening. Thou hast not left Thyself without a witness among men, for Thy loving-kindness is over all Thy works. Thou hast blessed us as individuals and as a people, in basket and in store, in body and in mind, and through the atoning blood of Jesus Christ, Thy Son, our Lord, Thou hast redeemed us from sin and death, hast made us kings and priests unto our God and Father, and hast given unto us the hope of eternal life in His name.

We render Thee most hearty thanks, our heavenly Fa-



## THE RICE INSTITUTE

ther, for the favor which is ours to-day as we set apart this institution to the promotion of the cause of truth among men and to the greater glory of our God. Especially do we remember with gratitude to Thee the name of him whose generosity and love for his kind have made this day possible. We thank Thee, that in him were united both the ability and the desire to bless his fellow-men, and that it has been given unto him to establish this institution that the darkness of ignorance may be dispelled and that men may dwell in the light which comes from the truth. We thank Thee that our eyes behold this day the fruition of his hopes, and that he, being dead, yet speaketh.

We humbly pray Thee, therefore, that Thou wilt graciously accept this offering at our hands. In Thy mercy grant that this institution may endure through all the years to come, that its influence may broaden with its days, and that it may so touch and guide the life of this city, the commonwealth, and the nation, that generations yet unborn may bless the day of its beginning. Guard it by Thy almighty power from harm, that its work may be unhindered by calamity. Fill it with the spirit of truth and of service, and by Thy grace make it to be a useful instrument in Thy hands for the advancement of Thy kingdom, that it may have no small part in the hastening of the day when all of the world's ignorance shall be abolished, when men shall no longer oppress their fellows, but when the spirit of brotherhood shall prevail, and all men together shall strive for the common good in full obedience to the ordinances of God.

To this end we beseech Thee to look with favor upon the Board of Trustees, giving to them all necessary wisdom and grace, that they may administer this great trust as good stewards, with all fidelity. Crown with Thy favor Thy servant, the president, into whose hands and upon whose

## BOOK OF THE OPENING

heart this responsibility has been laid, and who stands to-day upon the threshold of this great opportunity. Give to him high visions of the service to God and to man to which he may minister in this place. May the call of this privilege uplift him. May the burden of the heavy task before him lead him to lean heavily upon Thy strength. May Thy good Spirit so rule in his heart and so own and bless his work that he may go forward to his task with unfaltering courage and, if it please Thee, to abundant success, being given the desires of his heart. We beseech Thee for the teachers who are to stand within these walls, the leaders of the youth of to-day and to-morrow. Grant, our Father, that they may all be taught of Thee, that they may catch Thy Spirit and Thy mind, and that Thy truth may be their continual abiding-place. May they be conscious of the issues of time and eternity with which they must deal as they lead the minds of men; and may they, therefore, humbly follow Him who alone is the Light of the world. Give them that wisdom which begins in the fear of Thyself, and that understanding which is found only in departure from evil, that the youth who shall be committed to their charge may be led by them not only into high intellectual achievement, but also into the likeness of Jesus Christ our Lord.

And thus may all the influences of this institution contribute to human good. Make it, we pray Thee, the uncompromising foe to vice and crime, to ignorance and sin. May the streams of its influence heal many of the waste places of earth and make glad the city of God, that Thy kingdom may come and Thy will may be done upon the earth as it is done in heaven. And to Thy great name, Father, Son, and Spirit, shall be all the praise, both now and forever, Amen.

# THE RICE INSTITUTE

## Veni Creator Spiritus

G. P. da Palestrina

1. Ve - ni, Cre - a - tor Spi - ri - tus, Men - tes tu -  
 2. Da gau - di - o - rum præ - mi - a, Da gra - ti -  
 3. Sit laus Pa - tri cum Fi - li - o, San - cto si -

o - rum vi - si - ta, Im - ple su - per - ña gra - ti - a  
 o - rum mu - ne - ra, Dis - sol - ve li - tis vin - cu - la,  
 mul Pa ra - cli - to, No - bis - que mit - tat Fi - li - us,

Quæ tu cre - a - sti, pe - cto - ra.  
 Ad strin - ge pa - cis foe - de - ra.  
 Cha - ri - sma San - cti Spi - ri - tus. A - men.

TEXAS  
A DEMOCRATIC ODE

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I

THE WILD BEES

ALL along the Brazos river,  
All along the Colorado,  
In the valleys and the lowlands  
Where the trees were tall and stately,  
In the rich and rolling meadows  
Where the grass was full of wild-flowers,  
Came a humming and a buzzing,  
Came the murmur of a going  
To and fro among the tree-tops,  
Far and wide across the meadows.  
And the red-men in their tepees  
Smoked their pipes of clay and listened.  
"What is this?" they asked in wonder;  
"Who can give the sound a meaning?  
Who can understand the language  
Of a going in the tree-tops?"  
Then the wisest of the Tejas  
Laid his pipe aside and answered:  
"O my brothers, these are people,  
Very little, winged people,  
Countless, busy, banded people,  
Coming humming through the timber.  
These are tribes of bees, united  
By a single aim and purpose,  
To possess the Tejas' country,



## THE RICE INSTITUTE

Gather harvest from the prairies,  
Store their wealth among the timber.  
These are hive and honey makers,  
Sent by Manito to warn us  
That the white men now are coming,  
With their women and their children.  
Not the fiery filibusters  
Passing wildly in a moment,  
Like a flame across the prairies,  
Like a whirlwind through the forest,  
Leaving empty lands behind them!  
Not the Mexicans and Spaniards,  
Indolent and proud hidalgos,  
Dwelling in their haciendas,  
Dreaming, talking of to-morrow,  
While their cattle graze around them,  
And their fickle revolutions  
Change the rulers, not the people!  
Other folk are these who follow  
When the wild-bees come to warn us;  
These are hive and honey makers,  
These are busy, banded people,  
Roaming far to swarm and settle,  
Working every day for harvest,  
Fighting hard for peace and order,  
Worshiping as queens their women,  
Making homes and building cities  
Full of riches and of trouble.  
All our hunting-grounds must vanish,  
All our lodges fall before them,  
All our customs and traditions,  
All our happy life of freedom,  
Fade away like smoke before them.



## BOOK OF THE OPENING

Come, my brothers, strike your tepees,  
Call your women, load your ponies!  
Let us take the trail to westward,  
Where the plains are wide and open,  
Where the bison-herds are gathered  
Waiting for our feathered arrows.  
We will live as lived our fathers,  
Gleaners of the gifts of nature,  
Hunters of the unkept cattle,  
Men whose women run to serve them.  
If the toiling bees pursue us,  
If the white men seek to tame us,  
We will fight them off and flee them,  
Break their hives and take their honey,  
Moving westward, ever westward,  
There to live as lived our fathers.”  
So the red-men drove their ponies,  
With the tent-poles trailing after,  
Out along the path to sunset,  
While along the river valleys  
Swarmed the wild-bees, the forerunners;  
And the white men, close behind them,  
Men of mark from old Missouri,  
Men of daring from Kentucky,  
Tennessee, Louisiana,  
Men of many States and races,  
Bringing wives and children with them,  
Followed up the wooded valleys,  
Spread across the rolling prairies,  
Raising homes and reaping harvests.  
Rude the toil that tried their patience,  
Fierce the fights that proved their courage,  
Rough the stone and tough the timber

## THE RICE INSTITUTE

Out of which they built their order!  
Yet they never failed nor faltered,  
And the instinct of their swarming  
Made them one and kept them working,  
Till their toil was crowned with triumph,  
And the country of the Tejas  
Was the fertile land of Texas.

## II

### THE LONE STAR

Behold a star appearing in the South—  
A star that shines apart from other stars,  
    Ruddy and fierce, like Mars!  
Out of the reeking smoke of cannon's mouth  
That veils the slaughter of the Alamo,  
    Where heroes face the foe,  
One man against a score, with blood-choked breath  
Shouting the watchword, "Victory or Death—"  
Out of the dreadful cloud that settles low  
    On Goliad's plain,  
Where thrice a hundred prisoners lie slain  
Beneath the broken word of Mexico—  
Out of the fog of factions and of feuds  
    That ever drifts and broods  
Above the bloody path of border war,  
    Leaps the Lone Star!

What light is this that does not dread the dark?  
What star is this that fights a stormy way  
    To San Jacinto's field of victory?  
It is the fiery spark

## BOOK OF THE OPENING

That burns within the breast  
Of Anglo-Saxon men, who can not rest  
Under a tyrant's sway;  
The upward-leading ray  
That guides the brave who give their lives away  
Rather than not be free!

O question not, but honour every name,  
Travis and Crockett, Bowie, Bonham, Ward,  
Fannin and King, all who drew the sword  
And dared to die for Texan liberty!  
Yea, write them all upon the roll of fame,  
But no less love and equal honour give  
To those who paid the longer sacrifice—  
Austin and Houston, Burnet, Rusk, Lamar  
And all the stalwart men who dared to live  
Long years of service to the lonely star.

Great is the worth of such heroic souls:  
Amid the strenuous turmoil of their deeds,  
They clearly speak of something that controls  
The higher breeds of men by higher needs  
Than bees, content with honey in their hives!

Ah, not enough the narrow lives  
On profitable toil intent!  
And not enough the guerdons of success  
Garnered in homes of affluent selfishness!

A noble discontent  
Cries for a wider scope  
To use the wider wings of human hope;  
A vision of the common good  
Opens the prison-door of solitude;  
And, once beyond the wall,  
Breathing the ampler air,

## THE RICE INSTITUTE

The heart becomes aware  
That life without a country is not life at all.  
A country worthy of a freeman's love;  
A country worthy of a good man's prayer;  
A country strong, and just, and brave, and fair,—  
A woman's form of beauty throned above  
The shrine where noble aspirations meet—  
To live for her is great, to die is sweet!

Heirs of the rugged pioneers  
Who dreamed this dream and made it true,  
Remember that they dreamed for you.  
They did not fear their fate  
In those tempestuous years,  
But put their trust in God, and with keen eyes,  
Trained in the open air for looking far,  
They saw the many-million-acred land  
Won from the desert by their hand,  
Swiftly among the nations rise,—  
Texas a sovereign State,  
And on her brow a star!

## III

### THE CONSTELLATION

How strange that the nature of light is a thing beyond our  
ken,  
And the flame of the tiniest candle flows from a fountain  
sealed!  
How strange that the meaning of life, in the little lives of  
men,  
So often baffles our search with a mystery unrevealed!

## BOOK OF THE OPENING

But the larger life of man, as it moves in its secular sweep,  
Is the working out of a Sovereign Will whose ways  
appear;  
And the course of the journeying stars on the dark blue  
boundless deep,  
Is the place where our science rests in the reign of law  
most clear.

I would read the story of Texas as if it were written on  
high;  
I would look from afar to follow her path through the  
calms and storms;  
With a faith in the world-wide sway of the Reason that rules  
in the sky,  
And gathers and guides the starry host in clusters and  
swarms.

When she rose in the pride of her youth, she seemed to be  
moving apart,  
As a single star in the South, self-limited, self-posessed;  
But the law of the constellation was written deep in her  
heart,  
And she heard when her sisters called, from the North  
and the East and the West.

They were drawn together and moved by a common hope  
and aim—  
The dream of a sign that should rule a third of the  
heavenly arch;  
The soul of a people spoke in their call, and Texas came  
To enter the splendid circle of States in their onward  
march.



## THE RICE INSTITUTE

So the glory gathered and grew and spread from sea to sea,  
And the stars of the great republic lent each other light;  
For all were bound together in strength, and each was free—  
Suddenly broke the tempest out of the ancient night!

It came as a clash of the force that drives and the force that  
draws;  
And the stars were riven asunder, the heavens were  
desolate,  
While brother fought with brother, each for his country's  
cause—  
But the country of one was the Nation, the country of  
other the State.

Oh, who shall measure the praise or blame in a strife so  
vast?  
And who shall speak of traitors or tyrants when all were  
true?  
We lift our eyes to the sky, and rejoice that the storm is past,  
And we thank the God of all that the Union shines in the  
blue.

Yea, it glows with the glory of peace and the hope of a  
mighty race,  
High over the grave of broken chains and buried hates;  
And the great, big star of Texas is shining clear in its place  
In the constellate symbol and sign of the free United  
States.

## BOOK OF THE OPENING

### IV

#### AFTER THE PIONEERS

After the pioneers—

Big-hearted, big-handed lords of the axe and the plow and  
the rifle,

Tan-faced tamers of horses and lands, themselves remaining  
tameless,

Full of fighting, labour and romance, lovers of rude  
adventure—

After the pioneers have cleared the way to their homes and  
graves on the prairies:

After the State-builders—

Zealous and jealous men, dreamers, debaters, often at odds  
with each other,

All of them sure it is well to toil and to die, if need be,  
Just for the sake of founding a country to leave to their  
children—

After the builders have done their work and written their  
names upon it:

After the civil war—

Wildest of all storms, cruel and dark and seemingly  
wasteful,

Tearing up by the root the vines that were splitting the old  
foundations,

Washing away with a rain of blood and tears the dust of  
slavery,

After the cyclone has passed and the sky is fair to the far  
horizon;

## THE RICE INSTITUTE

After the era of plenty and peace has come with full hands  
to Texas,  
Then—what then?

Is it to be the life of an indolent heir, fat-witted and  
self-contented,  
Dwelling at ease in the house that others have builded,  
Boasting about the country for which he has done nothing?  
Is it to be an age of corpulent, deadlly-dull prosperity,  
Richer and richer crops to nourish a race of Philistines,  
Bigger and bigger cities full of the same confusion and  
sorrow,  
The people increasing mightily but no increase of the  
joy?  
Is this what the forerunners wished and toiled to win for  
you,  
This the reward of war and the fruitage of high endeavour,  
This the goal of your hopes and the vision that satisfies you?

Nay, stand up and answer—I can read what is in your  
hearts—  
You, the children of those who followed the wild bees,  
You, the children of those who served the Lone Star,  
Now that the hives are full and the star is fixed in the  
constellation,  
I know that the best of you still are lovers of sweetness and  
light!  
You hunger for honey that comes from invisible gardens;  
Pure, translucent, golden thoughts and feelings and  
inspirations,  
Sweetness of all the best that has bloomed in the mind of  
man.

## BOOK OF THE OPENING

You rejoice in the light that is breaking along the borders of  
science;  
The hidden rays that enable a man to look through a wall of  
stone;  
The unseen, fire-filled wings that carry his words across the  
ocean;  
The splendid gift of flight that shines, half-captured, above  
him;  
The gleam of a thousand half-guessed secrets, just ready to  
be discovered!  
You dream and devise great things for the coming  
race—  
Children of yours who shall people and rule the domain of  
Texas;  
They shall know, they shall comprehend more than their  
fathers,  
They shall grow in the vigour of well-rounded manhood and  
womanhood,  
Riper minds, richer hearts, finer souls, the only true wealth  
of a nation—  
The league-long fields of the State are pledged to ensure this  
harvest!

Your old men have dreamed this dream and your young  
men have seen this vision.  
The age of romance has not gone, it is only beginning;  
Greater words than the ear of man has heard are waiting to  
be spoken,  
Finer arts than the eyes of man have seen are sleeping to be  
awakened—  
Science exploring the scope of the world,  
Poetry breathing the hope of the world,  
Music to measure and lead the onward march of man!

## THE RICE INSTITUTE

Come, ye honoured and welcome guests from the elder  
nations,  
Princes of science and arts and letters,  
Look on the walls that embody the generous dream of one  
of the old men of Texas,  
Enter these halls of learning that rise in the land of the  
pioneer's log-cabin,  
Read the confessions of faith that are carved on the stones  
around you:  
Faith in the worth of the smallest fact and the laws that  
govern the starbeams—  
Faith in the beauty of truth and the truth of perfect beauty,  
Faith in the God who creates the souls of men by knowledge  
and love and worship.  
This is the faith of the New Democracy—  
Proud and humble, patiently pressing forward,  
Praising her heroes of old and training her future leaders,  
Seeking her crown in a nobler race of men and women—  
After the pioneers, sweetness and light!

HENRY VAN DYKE.



stiftet sich rasch zur Blüte entfalte und der wissenschaftlichen Welt bald reife Früchte seines Wirkens darbieten werde.

Hochgeehrter Herr Präsident,

Die Königlich Preussische Akademie der Wissenschaften nimmt den wärmsten Anteil an der Gründung des Rice Institute in Süden der Union, deren wissenschaftliche Anstalten sich von Jahr zu Jahr mehr und in einen erfreulichen Wettbewerb mit den älteren Bildungsstätten der alten Welt treten. Letzter traf Ihre ehrenvolle Einladung die Akademie in einer Zeit, wo sich die Mitglieder in den Ferien zerstreut haben. Es ist daher nicht möglich gewesen so kurze Zeit vor Ihrer Reise einen Delegierten zu erwählen, der persönlich unsere Anstalt bei den Inaugurationsakte des Rice Institute hätte vertreten können. Die Königlich Preussische Akademie legt aber Wert darauf wenigstens schriftlich ihrer Genugthuung und Freude darüber Ausdruck zu verleihen, daß in Texas ein neues Glied in den Ring wissenschaftlicher Bildungsanstalten der Welt eingefügt wird. Sie wünscht, daß das neugegründete Institut

To the President of  
The Rice Institute  
Houston, Texas, U.S.A.

Diels

vorsitzender Sekretär der  
Königlich Preussischen Akademie der Wissenschaften



## EDUCATION AND THE STATE

THE importance of the dedication of the Rice Institute is emphasized by the presence of so many distinguished scientists from other nations and by the presence of distinguished educators of other States of this Union. The interest which prevails in Texas, and especially in this city, in the future of this university, is manifested by the assemblage which is before me. But of equal importance are the provisions made by Mr. Rice to secure the success of the enterprise by placing it in the hands of such able trustees, who can be relied upon to use the funds to the best advantage. These buildings, so well adapted to the work to be done, and especially the competent president and his assistants selected to execute the provisions of the will, give additional assurance of the wise application of the beneficent donation to the education of young men and women of Texas.

The American population in the State of Texas revolted against the Mexican rule, and on the second day of March, 1836, published a declaration of independence, specifying the causes which justified the act, one of which was expressed in this explicit paragraph: "It has failed to establish any public system of education, although possessed of almost boundless resources (the public domain), and although it is an axiom in political science that unless a people are educated and enlightened it is idle to expect the continuance of civil liberty, or the capacity for self-government." The Constitution which was adopted by the people of the Republic in its General Provisions, Section 5, reads: "It shall be

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the duty of Congress, as soon as circumstances will permit, to provide by law a general system of education."

The Constitution of the State of Texas, adopted in 1845, expressed the same purpose in terms thus: "A general diffusion of knowledge being essential to the preservation of the rights and liberties of the people, it shall be the duty of the legislature of this State to make suitable provision for the support and maintenance of public schools." That provision was repeated in 1866 by the convention which reformed the Constitution of the State so as to conform to our new relations to the Federal Government. The Constitution of 1876, now in force, contains like provisions, and to secure its enforcement the convention set apart certain classes of lands and taxes for the maintenance of a system of public free schools. On every appropriate occasion the people of Texas have expressed their purpose to make ample provision for the maintenance of an efficient system of public free schools in this State for the education of the masses.

Prior to the war between the States, the people were dependent for the education of their children upon private schools organized and supported by the patrons, each paying tuition to the teacher. The consequence was that those children whose parents were unable to pay and orphans who were indigent were not provided for. The teachers of those schools were usually men, and, as a rule, were better instructors than now employed in the public schools of the country districts.

The purpose to inaugurate free schools survived the war between the States, and during the administration of Governor Davis free schools were organized to some extent, but had little success until the adoption of the Constitution of 1876; since which time much progress has been made and the public-school system is much improved, especially in the

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cities and towns. The State University, the Agricultural and Mechanical College, and a number of colleges of good capacity supported by the State afford to students good opportunity for higher education. Austin College, Baylor University, and the universities of the different churches constitute a valuable auxiliary educational force with which Rice Institute will take its place as a part of our system of higher education, and no doubt the Institute will be a creditable accession thereto.

I have briefly reviewed the history of educational institutions in Texas to point attention to the fact that public sentiment is ready to welcome the Institute, and the provision for education in this State, public and private, is in condition to promote success.

I am not informed as to the date of Mr. Rice's settlement in Texas, but it was in the life of the Republic, and he imbibed the spirit which prompted the declaration in favor of education, above quoted, and which survived the years of an active life and prompted the provision made for this Institute.

Mr. Rice was a young man, with no capital except his manhood and his intellectual and moral endowments, when he became a citizen of the Republic, and by his industry and economy acquired a large fortune. He held public office and participated in the public enterprises of the community in which he lived up to the date of disqualification by infirmity. He was prominent in the upbuilding of the City of Houston, and in the construction and operation of railroads by which the whole State was benefited. In fact, he was an important factor in the development of Texas, and by this donation expressed his appreciation of the favors he had received and the advantages offered to him, which is creditable to his memory.



## THE RICE INSTITUTE

In order to comprehend the full value of the endowment of this institution it is necessary to look to the condition of the State and the needs of the people who will be indirectly benefited by its work; for it is true that the greatest value will accrue from the lives and labors of those who may be educated here, and will be enjoyed by many who will not recognize the fact that it is traceable to this university, but that fact does not detract from its importance.

If the benefits to be derived from this institution be confined to those persons who may receive instruction here and to the financial benefits accruing to the City of Houston, Rice Institute would be worth all that it will cost. But, in fact, such individual and local benefits will be a small part of the total good that will accrue to the people of Texas from this liberal donation. The Institute is located at Houston, but it belongs to the whole State. The arts and sciences are made special subjects of instruction, and they who acquire the knowledge of these branches of learning will go forth to put into practical use the knowledge thus obtained, with a purpose to acquire fortune or fame for themselves, but such persons will necessarily have good or evil influence upon others. "No man liveth to himself." Through its students every institution of learning exerts a power for good or evil upon society, therefore the instruction given and the character of the institution itself are of importance to the public.

The greatest benefit derived from such teaching is the relief that comes to the unlearned masses, through the invention of new methods of performing their labor, relieving the laborer of the tax on his physical strength and increasing the return derived from it. The great progress made in the different industries has had its origin and consummation in the scientific knowledge of men, students of natural laws.

Bear with me if I am tedious, but I can better present by

## BOOK OF THE OPENING

illustration the fact that the greatest benefit of such training as will be received in this institution does not consist in the money accumulated or the fame won by the use of training received in such an institution as this. The history of the United States, and especially of Texas, shows a wonderful development and great amelioration of the drastic methods that taxed the energies of the pioneers, which have been effected by discoveries of methods of labor and the application of new powers.

To illustrate. Father removed from Jasper County, Georgia, to Washington County, Texas, in 1846. We saw our first railroad track and train at Atlanta, Georgia, and did not cross another railroad on our journey, which was made in wagons and carriages drawn by horses and mules, consuming three months' time. There was then no railroad in Texas. In 1851 father was farming on Mill Creek, west of Brenham, in Washington County. All family supplies were enormously high: flour was sold at fifteen dollars per barrel, and other things in proportion. We usually had biscuit for breakfast on Sunday mornings and at the preacher's visit. All merchandise was so exorbitant that the people were compelled to deny themselves such things as were not absolute necessities. The produce of the farm being conveyed to market on wagons, and their supplies being hauled by like conveyance to the interior towns, the consumers necessarily paid heavy freight charges. The construction of railroads has worked such changes that it would be difficult for one who has had no experience of those conditions to realize the great benefit that railroads have brought to the masses.

In my boyhood I saw a man lying near a tree appearing to be dead. The tree had been struck by lightning and the man had been shocked. He had taken refuge under the

## THE RICE INSTITUTE

tree from a rain-storm. In that day electricity was known to the people only as a dangerous element beyond human control. It has by scientists been converted into an important servant, doing various important things, as the telegraph, which bears the messages of men in all kinds of business, also the telephone, which without regard to distance enables us, for business or pleasure, to converse as if standing face to face.

In the days of the best mail service a letter sent to one in New York would not be delivered and answer returned for many days, perhaps weeks. The telegraph wire now transmits such message and brings a reply in a few hours. The telephone carries the voice, and enables one to speak to another hundreds of miles distant, and in a known tone of voice to receive a reply as if the parties were in the same room. The wireless telegraph seeks the vessel in distress, or person whose locality is unknown, with messages of relief. Electricity has in many ways proved to be a very potent and valuable servant to man. My proposition is, that the relief to the masses in these minor matters, each insignificant, has conferred more important benefits in the aggregate than the acquisition of much wealth by the inventor or persons who put those inventions and discoveries into operation.

The wonderful development of the natural resources of nature has been accomplished through scientific knowledge by persons trained in the sciences, and is the fruit of training received in such institutions as this. Therefore, I repeat that the relief which is conferred upon the laborers in making less burdensome their tasks, and the conveniences which have through this source come to men of business as the fruits of learning imparted to students by such institutions, are of paramount importance.



## BOOK OF THE OPENING

Within the last century both steam and electricity have, by scientific knowledge, been converted into the greatest powers the world has ever known. In fact, those powers now move the machinery of the world. I need not specify the particulars of their uses. Without them stagnation would reign in every department of life.

I have given but a very limited statement of the advancement in all grades of life and all classes of business, but it will suffice as a basis for my conclusion, that the development and progress of the world has been the result of scientific knowledge, whereby the laws of nature have been utilized for the benefit of man.

The training of men and women mentally or morally is not limited in benefit or injury to the individual trained, but each student who may be educated in this institution will affect the public for good or evil. If the training in the arts and sciences produces an inventor of machinery or one who applies to practical service an invention by another, it will be a benefit to all whose labors may be made lighter or whose earning power may be increased thereby.

I have used the illustrations of the application of steam and electricity to the service of man as a basis for my concluding proposition, that the development of the resources of nature and the advancement of mankind intellectually and morally have been due mainly to the discoveries by scientists of the laws of nature, whereby the labors of men have been relieved of much hardship, their ability to produce enlarged, and the conveniences of life greatly increased. If we consider the labors of the farmer, the new machinery multiplies the powers of the man and relieves the laborer of the great hardships which formerly attended the work. In every department of life we find the contrast between those who avail themselves of the discoveries of new methods and

## THE RICE INSTITUTE

those who still are unable to secure the benefits, from which we get some conception of what scientific discoveries have done for men.

The desire for higher education is increasing, and the universities and colleges of the State and of the Christian denominations are overtaxed. There is room for this institution, and ample work for it to do. Its field of usefulness is commensurate with the growing State, and it will be a Texas University dispensing to our ambitious young men and women the benefits of Mr. Rice's bounty. The people of the entire State welcome Rice Institute as more than a local school, and I assume to say for them, "God speed Rice Institute in its noble work!"

THOMAS JEFFERSON BROWN.



## Yale University

The President and Fellows of Yale University extend their congratulations to the Trustees of the Rice Institute on the auspicious arrangements that have been made for the inauguration of its important work. They feel that the election of Edgar Odell Lovett as President is a guarantee that the foundations of the Institute will be laid in the thorough and liberal way designed by the late William Marsh Rice.

Yale University welcomes the Rice Institute into the brotherhood of American institutions of learning. Its officers assure the President and Trustees of their desire to be of service in any way in their power, and bespeak from the State of Texas and from the City of Houston every possible support in aiding the Institute to become a center of inspiration and of learning. May it carry out the founder's ideal by "the advancement of letters science and art" that not only the Southwest but the Nation may be helped by its activities!

New Haven, Connecticut

October the first

A. D. Nineteen Hundred and Twelve.

Edgar Odell Lovett President  
E. S. Allen Secretary



## THE CHURCH AND EDUCATION

**I**T is a great privilege to be permitted to participate in the exercises attendant upon the opening of this great Institution. For, as we survey these noble buildings and recall the story of the Institute; trying to realize the extraordinary and almost unparalleled efforts of the President and Board of Trustees to study and profit by the history and results of educational enterprise and advance in every civilized country; the broad and lofty ideals, to which the work of the institute has been thoughtfully and deliberately consecrated, and the magnificent financial endowment at their disposal to reduce these ideals to practice;—we must indeed feel that we are here to-day witnessing and creating an epoch in the history of education, not only for the people of Texas, but for all Americans. I can only say that I pray God that the future usefulness of this Institute may be commensurate with the brave and wise and munificent provision of its Founder; and that in the years and decades and centuries to come the name and memory of William Marsh Rice may be called blessed by the thousands of good American citizens who shall have been the beneficiaries of his princely generosity.

I have come here, at the invitation of President Lovett and the Board of Trustees, not merely as a private citizen, not as the representative of the University of the South, of which I happen to be Chancellor, but as a representative of the Christian Church, to speak on the general subject of the Church and Education.

The two words are not accidentally associated. From the beginning Christianity has been an educational religion, and from the beginning has invited and encouraged intellectual

## THE RICE INSTITUTE

inquiry. Its first great missionary was a man of learning, a brilliant student of the Rabbinic Schools, the Apostle Paul; and St. Luke in the Acts of the Apostles praises the people of Berœa because they were more noble (*eugenesteroi*) and showed their nobility by listening to new opinions with readiness of mind, taking the trouble to examine whether they were consistent with what they knew to be the truth. As we read the history to-day we can understand why through such slow processes of preparation this innate spirit of liberty had to express itself. The early Christian Church found the classic literature of Greece and Rome filled with fables and deceits, and foul stories of the gods, which were calculated to injure both the faith and morals of a simple people, too unsophisticated to read them merely as literature; and therefore there appears very early a growing prejudice against pagan learning. But in spite of this fact, and in spite of the fact that the persecution of Christians up to the beginning of the fourth century bred in them a distrust and dislike of heathen books,—yes, in spite of the fact that the moral and social riot which accompanied the decline of Roman civilization created a reaction in favor of Christian asceticism and monasticism, which declared its hatred of the common world and everything connected with it,—its culture and refinement and learning, as well as its falseness, its cowardice, and its degradation,—in spite of all these temptations, these propulsions towards barbarism, the Christian Church became and continued to be the home and nursery of intellectual culture.

There is no name, for example, of any race or people in the third century comparable to that of Origen, the great Christian critic, the great Christian scholar; and the intellectual power and activity of Chrysostom and Basil and the Gregories, and Jerome and Augustine in the fourth and fifth



## BOOK OF THE OPENING

centuries,—all of them Christian teachers,—would shed glory upon the history of any nation in any age. It is the fashion, I know, with unfriendly critics to emphasize the ignorance and lack of education in the so-called dark ages: but even then there were many instances of Christian enthusiasm for liberal learning. The Benedictine monasteries were the storehouses of ancient manuscripts. The schools of Charlemagne, under the great Christian teacher Alcuin, were undoubtedly the foundation of the later university system of Europe. The British and Irish missionaries, sheltered from the wars that desolated continental Europe, were men of wide culture and enthusiasm for education. King Alfred the Great in England, a true scholar and the father of English prose, got his learning from the Church's schools.

Let us frankly admit all that the critics say: that the episcopal or cathedral schools, and the monastic schools, which represented practically all the educational effort of the Middle Ages, fell far short of popularizing real education or love of learning; and that the fact that there were in every generation some teachers and some schools which had a broader outlook does not redeem the ninth and tenth centuries, under the sway of the Christian Church, from comparative ignorance and barbarism. Yet, after all, it was the Christian Church which in those stormy and tempestuous times preserved the tradition and the materials of knowledge. If ignorance was wide-spread, there was good reason for it. The Church wrought and fought for four hundred years to justify and establish a new ethical ideal; and that is worth more to us to-day than any technical learning. Even in our time, when we study conditions in our cities we are obliged to admit that there are worse things than illiteracy. The Church was fighting the gigantic enemies of human civilization, and it was no wonder that she postponed her



## THE RICE INSTITUTE

battle with mere ignorance. That was comparatively a small thing. In the sixth and seventh centuries the barbarian hordes were pouring into southern Europe, and the only organized resistance to them was the Christian Church. As Guizot says, it was not merely Christianity as an influence, a doctrine, that saved Europe: it was Christianity as a Church, as an institution, that prevented human civilization being set back four hundred years. In the ninth and tenth centuries the Normans were invading Europe, the Danes were descending on England, the Saracens were threatening Christendom, and organized human society was fighting for its life. Elementary morality, the ten commandments and the Lord's Prayer, were of infinitely more importance than the study of Homer and Virgil, or even of the names of the birds, the fishes, and the trees.

And when peace at last did come for a season, it was out of a Christian school that men like Anselm went forth to assert the claims of reason and arouse the higher intellect of Europe to activity. With the age of Anselm, and largely through the work and thought of Anselm, archbishop of Canterbury in the year 1100, the historians of educational advance place the rise of universities and the beginning of that enthusiasm for knowledge which we commemorate to-day. As one of the modern experts on the history of education, Dr. Laurie, says: "The universities may be regarded as the natural development of the cathedral and monastery schools." We know anyhow that the Church is the real founder of the Universities of Paris and Bologna and Prague and Oxford and Cambridge; and in more recent times the same may be said of the leading universities of the United States. There are no words strong enough to express the debt which liberal learning and higher education owe to the Christian Church. It was the Great Head of

## BOOK OF THE OPENING

the Church Who said: "Ye shall know the Truth, and the Truth shall make you free"; and men like Agassiz and Romanes and Pasteur and Lord Kelvin have splendidly demonstrated that the greatest triumphs of the human mind, in scientific discovery and research, have been inspired by loyalty to the Divine Master, Jesus Christ.

Every day I live I am more and more convinced that the true incentive and justification of scientific effort to learn the secrets of this world in which we find ourselves is the fact of our relation of kinship to the good God, Who made and sustains it all, a relation which was revealed and certified to us by the Incarnation.

And this is why Christianity brought with it a new educational impulse to the world. It introduced into the life of our race new and fruitful ideas, which, working slowly perhaps as we count time, but surely, have created whatever is best in our modern civilization. It deepened the sense of brotherhood, gave it a wider meaning and a Divine sanction. At the same time it developed and emphasized the personal freedom and the personal responsibility of the individual man and woman, by teaching them that they are in a true sense children of God, born of God and destined to return to God. Yes, it wove the hope of immortality into the common thought of daily life, and justified higher learning and research for their own sakes, by declaring that every bit of progress that man makes in knowledge and character has value and significance beyond time and forever.

Christianity taught the worth and importance of the individual, the necessity of his effort for self-development and self-expression, as it had never been taught before: but it also emphasized the purpose and meaning of this self-development as increase of efficiency for service—service to God and to our fellow men. And thus it invited and challenged the

## THE RICE INSTITUTE

world to the realization of an ideal of eternal value, an ideal which a thousand thousand years of educational experiment will not exhaust or overpass, an ideal which consecrates all man's intellectual effort, justifies all his unwearied search for knowledge, and holds before him an ever-vanishing goal of perpetual pursuit; and that Christian ideal is the development of the utmost efficiency, physical, mental, spiritual, in every individual man, woman, and child, for the sake of mutual service in the Kingdom of God.

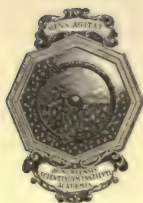
I have ventured upon this brief and imperfect sketch of the historical attitude of the Christian Church towards education in its intellectual aspect, first of all because not a few writers and speakers, prejudiced by superficial accounts of the Middle Ages, and obsessed with the importance of mere mental development, have done injustice to the Church, not caring to consider that it was the Church's moral conquest of barbarism that created the atmosphere and environment which enabled modern physical science to begin its work.

*Who loves not knowledge? Who shall rail  
Against her beauty? Who shall fix  
Her pillars? Let her work prevail.*

*But what is she, cut off from love and faith,  
But some wild Pallas of the brain  
Of demons, fiery hot to burst  
All barriers in her onward race  
For power? Let her know her place;  
She is the second, not the first.*

But secondly, I have insisted upon the Church's ideal at the opening of a great institution like this, because I want to





ALL' ISTITUTO RICE  
QUESTA  
REALE ACCADEMIA DELLE SCIENZE  
DELL' ISTITUTO DI BOLOGNA  
NON POTENDO  
COLL' INTERVENTO DI TALUNO DEI PROPRI ACCADEMICI  
PORGE  
COLLE PRESENTI PAROLE  
DA QUESTA MATERNA SEDE DI STUDI  
VOTI ED AUGURII  
D' INIZIO E PERENNE VITA  
PER FIORIMENTO E VIGORIA  
PER BENEFICO ONORE  
I PIÙ FERVIDI E AFFETTUOSI  
I PIÙ FAUSTI E FELICI

BOLOGNA, 24 SETTEMBRE 1912.



IL PRESIDENTE

*Pietro Albertoni*



## BOOK OF THE OPENING

plead with this audience for a recognition of the claims of patriotism.

The Rice Institute will last, we hope, for centuries to come, provided that the American people continue to maintain and reverence those moral ideals of life which create the quality of manhood and womanhood that makes free government secure. For the true end and aim of education is to develop men and women, and not to make machines or tools. A man may be so trained as to become a very successful machine for making money, or a keen-edged tool for others to use in exploring and producing material wealth; but such products of the schools are very often poor citizens, and worse husbands and fathers.

Of course I realize that if life for each one of us means simply to "make good," as the phrase goes, for our generation, getting what comfort and ease and luxury we can by plan and effort and struggle in the present time; taking advantage of whatever social, commercial, or political condition may conduce to our individual advantage; opportunists in conduct and pragmatists in philosophy; having no thought for the future, or interest in the success or failure of the Republic, or the happiness or misery of the generations that are to come after us;—I realize that if this be our life's philosophy, then of course the measure of the value of an institution like this is the amount in dollars and cents which its students shall be trained, not necessarily to earn or deserve, but to get, to acquire, to gain.

But I have not so understood the plan and scope of this Institute, or the ideals and hopes of the men who are on its Board of Administration and compose its Faculties.

Surely this Institute stands for higher and better things than mere materialism and commercialism. While, indeed, it must be conducted according to the most approved princi-

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ples of scientific method and theory in order to promote the practical efficiency of its students from every section, yet it will, we hope, also give room and encouragement to that loftier human aspiration which we call liberal culture, and strive to create and nurture that enthusiasm for real learning which has made the finest and truest progress of our race.

For I hold that it is not the men of action, whether on battle-fields or in cabinets or in commercial business, that have most truly helped the world. Nor is it the men who have invented new tools and new machinery, and discovered new methods of utilizing Nature's forces for man's use and comfort, and for the increase of material wealth, who have been the foremost benefactors of mankind. Rather it is the men who with moral heroism and unwearied love of truth for its own sake, asking no recognition and no reward, have tried to create through schools and colleges and universities an atmosphere, a tone, a *Zeitgeist*, that will inspire men, in spite of themselves, to noble aims; aye, it is these men who by their very retirement and isolation have escaped the contagion of current fashions of thought, whose humility is the result of long experience of the difficulty of arriving at absolute certainty on any subject, and who by patience and faith have found for themselves, and are working to protect and defend, a height, whence he who will may attain their vision—the vision of a larger world and a greater life.

This is the true measure of the scholar; this is the justification of the University. And this means religion; that a man is not a mere brute, nor a unit of sensation, but the child of God, akin to God, with capacity for infinite happiness and responsibility for infinite progress. And in this definition of education all true learning, all advance in real knowledge, has a religious value. The search for truth is itself a re-

## BOOK OF THE OPENING

ligious act; and the men who, honestly and sincerely, are studying and teaching Nature's secrets are the servants of the Most High God.

Let us accept this as the Divine Message, the Divine Challenge, and the assurance of the Divine Blessing to this Institute. Truly it may be said of it, that it has been founded as securely as the wit and knowledge of man can plan, with financial support assured to it, in extent almost unequaled in the history of educational institutions. If only it will take its stand for God and His righteousness, then indeed may we apply to it the words of the Prophet:

"I will lay thy stones with fair colors, and lay thy foundations with sapphires. And I will make thy windows of agates, and thy gates of carbuncles, and all thy borders of pleasant stones. And all thy children shall be taught of the Lord, and great shall be the peace of thy children."

THOMAS FRANK GAILOR.

## THE MEANING OF THE NEW INSTITUTION

### I

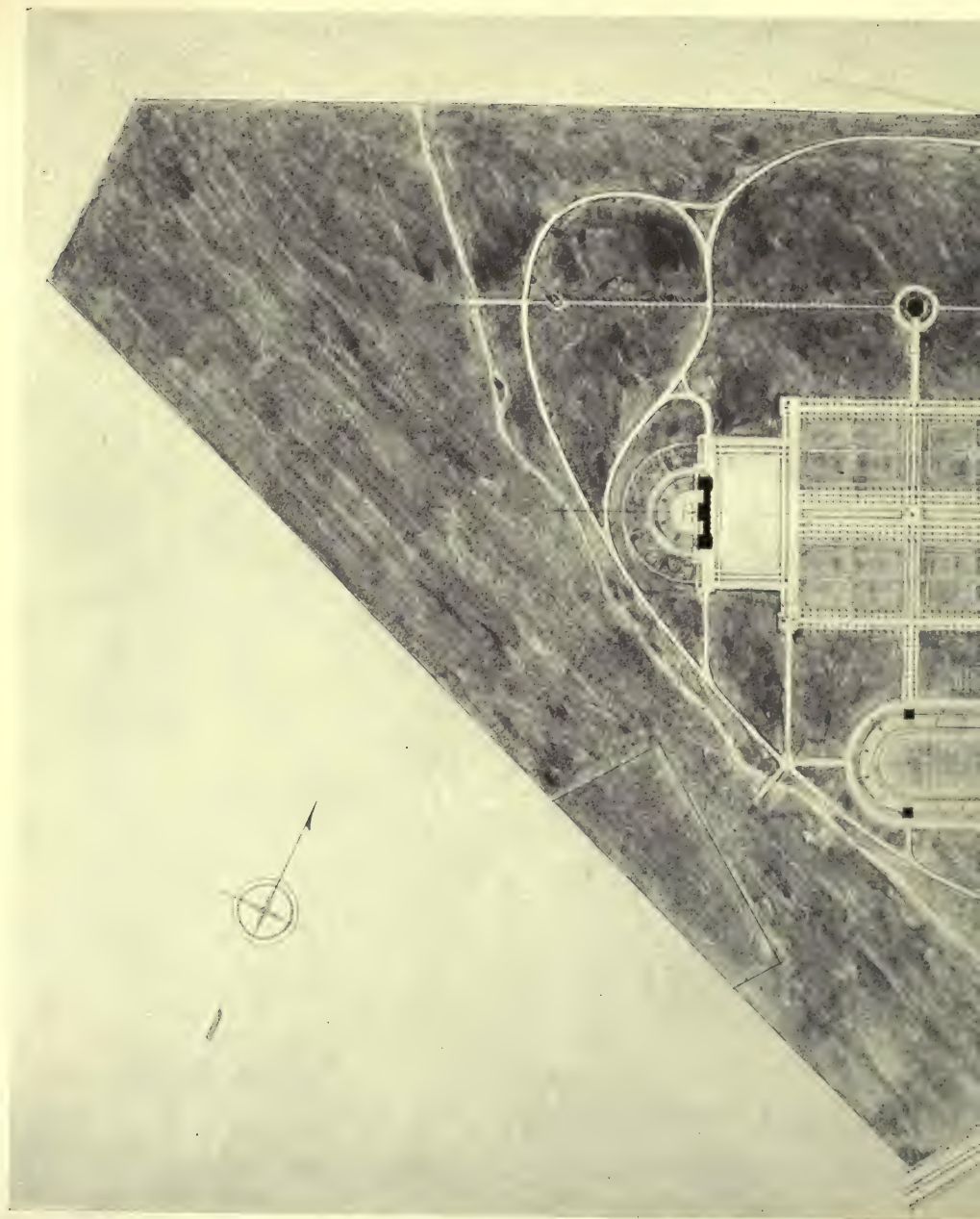
#### THE FOUNDATION: ITS SOURCE

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**I**T is a common saying in drawing-room and market-place that we are living in a wonderful age. Perhaps no known period of the past towers up to it, unless it be the age of Pericles, or that in which the Roman Empire was consolidated, or that of the Reformation. No features of the age are more striking than the handsome foundations which have been provided by private donation for lengthening the days of man and enlarging the content of his spiritual life. Every child of ten years knows the names of Alfred Nobel and Cecil Rhodes, of Mr. Carnegie and Mr. Rockefeller, of Girard and Peabody, of Johns Hopkins, Leland Stanford, and Cornell: the names of these gentlemen are household words, and in thousands of American homes their bearers have become household gods.

In this charmed circle of immortal philanthropists the name of William Marsh Rice is permanently inscribed this day by the poet of Princeton, the jurist of Texas, and the bishop of Tennessee. Thanks to the inaugural lectures of those twelve prophets of the fundamental sciences, the liberal humanities, the progress of modern learning, Altamira of Madrid, Borel of Paris, Croce of Naples, De Vries of Amsterdam, Jones of Glasgow, Kikuchi of Tokyo, Mackail of Oxford, Ostwald of Leipsic, the lamented Poincaré of Paris, Ramsay of London, Størmer of Christiania, and Volterra of Rome, the good-will of Mr. Rice to open new





THE GENERAL





ECTURAL PLAN

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springs of inspiration and living fountains of knowledge in an institution of liberal and technical learning becomes known to the world of letters and science and art, to whose advancement he gave of his substance and of his life.

For this fair day we have worked and prayed and waited. In the faith of high adventure, in the joy of high endeavor, in the hope of high achievement, we have asked for strength, and with the strength a vision, and with the vision courage: the courage born of straight and clear thinking, the vision of enduring forms of human service, the strength in resolute and steadfast devotion to definite purpose. And to-day, by virtue of the founder's splendid gift to the people, by virtue of the public spirit of his early advisers, by virtue of the public service of those who defended his last will and testament and thereby protected the people's rights, by virtue of the covenant which his trustees have kept in all good faith and conscience, by virtue of the constant creative work of supervising architects and the arduous labors of constructive engineers, by virtue of the cheer and the criticism and the counsel of friends in the community and throughout the commonwealth, the Rice Institute which was to be, in this its modest beginning, now has come to be—the new foundation has accomplished in its own being the miracle of all living things: it has come to life, and from this day forth takes a place, let us hope of increasing influence and usefulness, among those institutions which have made possible the civilized life of men in communities of culture and restraint—the State, the Church, and the University.

There are men and men and men. There are men of millions and men of millions. William Marsh Rice was a man in a million, an inspired millionaire who caught the prospect of monumental service to Houston, to Texas, the South, and the Nation. With no resources other than soundness of

## THE RICE INSTITUTE

body and strength of will, from a New England home of English and Welsh forebears, he came to Texas in his youth to make his fortune. By temperate habits of industry and thrift he made a fortune in Texas. He left his fortune in Texas. He gave his fortune—the whole of it—to Texas, for the benefit of the youth of the land in all the years to come; thus writing in the history of Texas the first conspicuous example in this commonwealth of the complete dedication of a large private fortune to the public good. Moreover, resolutely living a simple life, he denied himself even the “durable satisfaction” of seeing his philanthropy’s realization in order that he might give more abundantly of life to his fellows and their successors. Shrewd in foresight, strong in purpose, of stout courage and independent spirit, generation after generation will rise to call him blessed—“with honour, honour, honour, honour to him, eternal honour to his name.”



## BOOK OF THE OPENING

### II

#### THE FOUNDATION: ITS SITE

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TO his trustees, a self-perpetuating board of seven life members, the founder gave great freedom in the interpretation of his programme and corresponding discretion in the execution of its plans. The charter and testament under which these gentlemen discharge the obligations of their trusteeship are documents so liberal and comprehensive as to leave the institution under practically but one restriction, namely, its location must be in Houston, Texas. But therein lies what is perhaps its greatest opportunity. For men who are too busy doing the world's work to find time to talk about it would tell you that there never were more insistent challenges to constructive thinking than are confronting the South at the present time. Opportunity is written over the whole Southwest: opportunity commercial, opportunity political, opportunity educational, but educational opportunity is written larger than all the rest. We have problems to face, serious ones, that have been perplexing the South for a generation: but even to the most superficial observer it is daily becoming more and more apparent that any solution of these peculiar problems of the South calls for solutions of Southern educational problems in terms of educational opportunities for all the people. Furthermore, the agricultural and industrial transformation now in process of development offers manifold additional arguments to Southern men to prepare their sons for the possession of this land of plenty and progress. Though for nearly a generation the ambitious young Southerner may have seen larger possibilities

## THE RICE INSTITUTE

ahead of him farther from home, to-day he finds conditions completely changed. Go South, young man! is the slogan in one section. Stay South, young man! is the answering call of opportunity in the other.

In the South and in the West, of the South and of the West, you find yourselves in an environment whose clear skies make men blandly or keenly observant of their powers, whose mild climate keeps men constantly human and neighborly and friendly in ways of living whose democracy recognizes no inequalities; in an environment which will have its way with us unless we have our way with it; an environment bristling with opportunities for creative and constructive effort. You find yourselves in a State which can know no provincialism, because it has lived under seven flags. You find yourselves in a section of that State which lives under a categorical imperative of progress, for we of the plains are drawn by irresistible lure of the prairie, impelled to advance by beckoning mirage quite as wonderful as mountain prospect. You find yourselves among men who live their lives in the open, under a making sun that does not rise but jumps from the horizon full-orbed in his noonday splendor.

And how you do get into your blood and bone the wine and spirit of this country! Speedily you absorb its patriotism and pride, and as speedily come to feel the fearlessness and freedom, the frankness and the faith, that characterize the life of this Texan empire. For this reason it is that in portraying its virtues modesty is not a sin which doth so easily beset us. Houston—heavenly Houston, as it has been happily named by a distinguished local editor of more than local fame—you will find in some ways a bit too close to New York, perhaps, but here you will also find many a heartening reminder of the memories and traditions of the South, and all the moving inspiration in the promise and adventure



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of the West. Here, in a cosmopolitan place, in a community shaking itself from the slow step of a country village to the self-conscious stature of a metropolitan town, completing a channel to the deep blue sea, growing a thousand acres of skyscrapers, building schools and factories and churches and homes, you will learn to talk about lumber and cotton and railroads and oil, but you will also find every ear turned ready to listen to you if you really have anything to say about literature or science or art. Of cities there are genera and species and types whose science is still to be written: cities of arms, cities of kings, cities of government, cities of commerce and industry, cities of pleasure and leisure, beautiful cities of art, holy cities of cathedrals and convents, university cities of letters and science. Houston at present may fail of qualifying for admission to certain of these classes, but there is great reason to rejoice in the commercial prosperity of the city and in the growing development of the community; for just as certainly as trade follows the flag, just so certainly does the patron of learning follow in the wake of the empire-builder. For builders of cities, great merchants and captains of industry, by the character of their work and the extent of their interests, are rendered alert, open-minded, hospitable to large ideas, accustomed to and tolerant of the widest divergencies of view. Thus it has come to be that great trading centers have often been conspicuous centers of vigorous intellectual life: Athens, Florence, Venice, and Amsterdam were cities great in commerce; but, inspired by the love of truth and beauty, they stimulated and sustained the finest aspirations of poets, scholars, and artists within their walls. It requires no prophet's eye to reach a similar vision for our own city. I have felt the spirit of greatness brooding over the city. I have heard her step at midnight, I have seen her face at dawn. I have lived under

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the spell of the building of the city, and under the spell of the building of the city I have come to believe in the larger life ahead of us, in the house not made with hands which we begin this day to build. However, in the exultation of the moment in which we witness the dedication of the new university, we must not forget that the organization which William Marsh Rice incorporated has already rendered the city and State of his adoption considerable service. I need hardly remind you that during recent years the Rice Institute has contributed in a substantial manner to the upbuilding of Greater Houston. On a conservative basis—always on a conservative basis—certain of the foundation's funds have been invested in various enterprises which have sustained in no small measure the steady and continuous advance of the city in industrial and commercial prosperity.

The epoch whose beginning we observe to-day with these formal exercises marks the period in which even more powerfully that same organization is to support the intellectual and spiritual welfare of the community; and, finally, to touch again upon the material side of progress, the very machinery by which the stone age of the new university is about to be transformed into its spiritual age will distribute the income of the foundation through the several channels of Houston's business, philanthropic, social, and religious life; and thus we contemplate with some degree of satisfaction the slow but sure evolution of a threefold influence on the material, the intellectual, and the spiritual aspects of the life of the city.

## BOOK OF THE OPENING

### III

#### THE FOUNDATION: ITS HISTORY

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**I**T is now rather more than twenty years since several public-spirited citizens of the community asked Mr. Rice to bear the expense of building a new public high school for the city of Houston. This direct gift to the city's welfare Mr. Rice was unwilling to make, but a few months later, taking into his confidence a half-dozen friends, he made known to them his desire to found a much larger educational enterprise for the permanent benefit of the city and State of his adoption. These gentlemen were organized into a Board of Trustees for the new foundation, which was incorporated in 1891 under a broad charter granting the trustees large freedom in the future organization of a non-political and non-sectarian institution to be dedicated to the advancement of letters, science, and art. As a nucleus for an endowment fund, Mr. Rice at this time made over an interest-bearing note of two hundred thousand dollars to the original Board of Trustees, consisting of himself, the late Messrs. F. A. Rice and A. S. Richardson, and Messrs. James Addison Baker, James Everett McAshan, Emmanuel Raphael,<sup>1</sup> and Cesar Maurice Lombardi. Under the terms of the charter, the board is a self-perpetuating body of seven members elected for life: vacancies since its organization have been filled by the election of Messrs. William Marsh Rice, Jr., Benjamin Botts Rice, and Edgar Odell Lovett.

It was the unalterable will of the founder that the development of the work which he had conceived should progress

<sup>1</sup> In succession to the late Mr. Raphael, whose lamented death has occurred since the reading of this address, Mr. John Thaddeus Scott of Houston has been elected to membership on the Board of Trustees of the Institute.



## THE RICE INSTITUTE

no further during his lifetime. However, in the remaining days of his life he increased the endowment fund from time to time by transferring to the trustees the titles to certain of his properties, and in the end made the new foundation his residuary legatee. Upon the termination of the long years of litigation which followed Mr. Rice's death in 1900, the Board of Trustees found the Institute in possession of an estate whose present value is conservatively estimated at approximately ten million dollars, divided by the provisions of the founder's will into almost equal parts, available for equipment and endowment respectively. It may be remarked in passing that it is the determined policy of the trustees to build and maintain the institution out of the income, thus preserving intact the principal not only of the endowment fund but also that of the equipment fund. While proceeding to convert the non-productive properties of the estate into income-bearing investments, the trustees called a professor in Princeton University to assist them in developing the founder's far-reaching plans. Before taking up his residence in Houston, the future president visited the leading educational and scientific establishments of the world, returning in the summer of 1909 from a year's journey of study that extended from England to Japan. About this time negotiations were completed by which the Institute secured a campus of three hundred acres situated on the extension of Houston's main thoroughfare, three miles from the center of the city—a tract of ground universally regarded as the most appropriate within the vicinity of the city.

Another early decision of the trustees of the Institute was the determination that the new institution should be housed in noble architecture worthy of the founder's high aims; and upon this idea they entered with no lower ambition than to establish on the campus of the Institute a group of buildings



Princeton University  
October the first, 1912

To The Rice Institute  
Houston, Texas

Gentlemen:

On behalf of the authorities of Princeton University I have the honor of acknowledging your hospitable invitation asking that our academic body shall be represented on October tenth, eleventh and twelfth at the ceremonies formally inaugurating the Rice Institute of Liberal and Technical Learning.

It therefore gives me great pleasure to notify you that Princeton University has appointed William Francis Magie, Henry Professor of Physics and Dean of the Faculty, and Henry van Dyke, Murray Professor of English Literature, to attend in person as our delegates, to present our congratulations to the Rice Institute on the auspicious occasion of its formal dedication and to extend to your President, our former colleague in Princeton University, the assurance of our remembrance and good will. May this new-born Institute of Liberal and Technical Learning, ever keeping faith with the high intent of its founder, equal the best desires of those who are guiding the opening years of its career, enrich the intellectual life of the great State of Texas and of our nation, and help to elevate mankind for generations to come, even for as long as men shall care for the cause of truth and knowledge.

*Woodrow Wilson*  
President





## BOOK OF THE OPENING

conspicuous alike for their beauty and for their utility, which should stand not only as a worthy monument to the founder's philanthropy, but also as a distinct contribution to the architecture of our country. With this end in view they determined to commit to Messrs. Cram, Goodhue, and Ferguson, of Boston and New York, the task of designing a general architectural plan to embody in the course of future years the realization of the educational programme which had been adopted for the Institute. Such a general plan, the work of Mr. Ralph Adams Cram, L.H.D., exhibiting in itself many attractive elements of the architecture of Italy, France, and Spain, was accepted by the board in the spring of 1910. Immediately thereafter plans and specifications for an administration building were prepared, and in the following July the contract for its construction was awarded; three months later the erection of a mechanical laboratory and power-house was begun, and by the next autumn the construction of two wings of the first residential hall for men was well under way. In the preparation of preliminary plans for these building operations the Institute enjoyed the co-operation of an advisory committee consisting of Professor Ames, director of the physical laboratory of Johns Hopkins University; Professor Conklin, director of the biological laboratory of Princeton University; Professor Richards, chairman of the department of chemistry, Harvard University; and Professor Stratton, director of the National Bureau of Standards. Among the additional buildings for which tentative studies have already been made are special laboratories for instruction and investigation in physics,<sup>1</sup> chemistry, and biology.

<sup>1</sup> Since this address was read the construction of the physics laboratories has been begun from plans prepared by Messrs. Cram and Ferguson under the direction of Mr. Harold Albert Wilson, D.Sc., F.R.S., resident professor of physics in the Institute. By the beginning of the next academic year (1914-15) these laboratories will be ready for occupancy, as will also the third wing of the first residential hall for men.

# THE RICE INSTITUTE

## IV

### THE UNIVERSITY: ITS STUDIES AND STANDARDS

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THAT we have been making large plans is already a commonplace of our thinking and talking. In the proposed solutions of some of the problems confronting them the trustees have been moved by several considerations, which may appropriately be recapitulated at this time. In the first place, the financial resources of the institution, however handsome, are limited; for this reason it was determined to build and maintain the Institute out of the income, keeping the principal of all funds intact. In the second place, the new institution is located in a new and rapidly developing country. In the third place, the very problems pressing for resolution in the development of the environment seemed to call for a school of science, pure and applied, of the highest grade, looking, in its educational programme, quite as much to investigation as to instruction.

Accordingly, and in the spirit of the founder's dedication of the Institute, it was proposed that the new institution should enter upon a university programme, beginning at the science end. As regards the letters end of the threefold dedication, it was proposed to characterize the institution as one both of liberal and of technical learning, and to realize the larger characterization as rapidly as circumstances might permit. With respect to the art end, it was proposed to take architecture seriously in the preparation of all of its plans, and to see to it that the physical setting of the Institute be one of great beauty as well as of more immediate utility. This in a nutshell is the programme on which we have

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thought with great deliberation and wrought with even greater care. Its chronology to date consists of one year of preparatory study from England to Japan, one year in the making of preliminary plans, and two years in work of actual construction and organization.

The new institution thus aspires to university standing of the highest grade, and would achieve its earliest claims to this distinction in those regions of inquiry and investigation where the methods of modern science are more directly applicable. For the present it is proposed to assign no upper limit to its educational endeavor, and to place the lower limit no lower than the standard entrance requirements of the more conservative universities of the country. Moreover, all courses of instruction and investigation, graduate and undergraduate, will be open both to young men and to young women, and for the present, without tuition and without fees. These courses will be offered by a staff, initially organized for university and college work, ultimately to consist of three grand divisions, science, humanity, technology, each of which will break up into as many or more separate faculties. For these faculties the best available instructors and investigators are being sought wherever they may be found, in the hope of assembling a group of unusually able scientists and scholars through whose productive work the Institute should speedily take a place of considerable importance among established institutions. Friends of education in America would insist that the term "Institute" is too narrow in its connotation, friends of science in Europe would contend that it is too broad. However, in its dedication to the advancement of letters, science, and art, the educational programme of liberal and technical learning now being developed may justify the designation "Institute" as representing the functions of a teaching university of learning, and, at



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least in some of its departments, those of the more recent research institutions founded in this country and abroad.

The planning of universities is no new problem. The list of modern solutions under state initiative is a long one from the national universities of Japan at Tokyo and Kyoto down to the reconstruction of the University of Paris and the revival of the French provincial universities; the reorganization of the University of London and the founding of the newer English municipal universities at Durham, Manchester, Liverpool, Birmingham, Leeds, Sheffield, and Bristol; the newest members of the German system in the universities of Frankfort, Dresden, and Hamburg; and the conspicuous development of state institutions in our own country—to name but a few, in the new California under Wheeler, the new Illinois under Draper and James, the new Texas under Houston and Mezes, the new Virginia under Alderman, and the new Wisconsin under Van Hise. And at this very moment there are building two new universities in Hungary, three in Canada, and two in Japan, while plans are being formulated for new institutions in China, Australia, and South Africa. Within the memory of all of us there have arisen on the benefactions of American philanthropists the Johns Hopkins University under Gilman and Remsen, Cornell University under White and Adams and Schurman, the University of Chicago under Harper and Judson, Leland Stanford under Jordan, and Clark under Hall; while the same period of university building has witnessed equally striking evolutions in the older American private foundations, notably the new Harvard under Eliot and Lowell, the new Yale under Porter and Dwight and Hadley, the new Princeton under McCosh and Patton and Wilson and Hibben, the new Columbia under Low and Butler, and the new Pennsylvania under Harrison and Smith.



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It has been remarked that an inventory of present-day universities would reveal thirteenth-century universities, fifteenth-century universities, nineteenth-century universities, and twentieth-century universities in formidable array and considerable confusion. There are universities that swear by Plato, others by Euclid, and others by Adam Smith. Some uphold the Thirty-nine Articles, while others worship radium and helium. From glorified engineering shops to scholastic sanctuaries, they offer the widest possible choice of type.

Nevertheless, there has been evolving a composite conception of the university in some such characterization of its functions as follows:

First, from the persistent past, in which there are no dead, to embody within its walls the learning of the world in living exponents of scholarship, who shall maintain, in letters, science, and art, standards of truth and beauty, and canons of criticism and taste.

Second, for the living present and its persistence in the future, to enlarge the boundaries of human learning and to give powerful aid to the advancement of knowledge, as such, by developing creative capacity in those disciplines through which men seek for truth and strive after beauty.

Third, on call of State or Church or University, to convey to its community and commonwealth, in popular quite as much as in permanent form, the products of its own and other men's thinking on current problems of science and society, of government and public order, of knowledge and conduct.

Fourth, in support of all institutes of civilization and all instruments of progress, to contribute to the welfare of humankind in freedom, prosperity, and health, by sending forth constant streams of liberally educated men and women

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to be leaders of public opinion in the service of the people, constant streams of technically trained practitioners for all the brain-working professions of our time, not alone law, medicine, and theology, but also every department of service and learning, from engineering, architecture, commerce, and agriculture, to teaching, banking, journalism, and public administration.

As thus conceived, the university is a great storehouse of learning, a great bureau of standards, a great workshop of knowledge, a great laboratory for the training of men of thought and men of action. Under this conception of its functions the university has to do with the preservation of knowledge, with the discovery and distribution of knowledge, with the applications of knowledge, and with the making of knowledge-makers. Singling out one line of its activities, the business of a university is to teach science, to create science, to apply science, to make scientists. To be even more specific, its objects in the department of chemistry are to teach chemistry, to create chemistry, to apply chemistry in all the arts of industry and commerce, and to make more creative chemists. This conception of the manifold function of a university in scholarship, in science, in social service, and in civilization corresponds point by point to the fourfold function of the career of a scholar or scientist: in scholarship, a conservator of knowledge; in science, a creator of knowledge; in citizenship, a contributor to public opinion; in service, a controller of the destiny of the cherished institutions of civilization.

However, even to those who recognize in patriotism, education, and religion supreme enterprises of the human spirit, education itself is proverbially a dull subject whose technical details are sometimes dry as dust. For instance, I am by no means convinced that a discussion of the metaphysics of the

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optative mood in Greek would be especially edifying on this occasion. Then, too, mathematical studies are poems of a variety better appreciated when read in private than when declaimed in public. Nor are you likely moved at this time by any overpowering desire for relief from the perplexity of that dear old lady who said she could readily make out how astronomers determined the distances and dimensions, masses and motions, constitution and careers of the heavenly bodies, but for the life of her she never could understand how they found out their beautiful names.

But studies and standards, students and staff are elements of a university programme quite as important as are a machine-shop, a file of journals, a lively imagination, and a printing-press, its other constituent parts. If a university should take all knowledge for its province, it becomes necessary to undertake a classification of knowledge, a problem never yet done with satisfaction to any one except perhaps the last man attempting it. Nor is the problem rendered inordinately simple when restricted to a programme in science, for, to say nothing of more recent modifications upheaving in character, the scientific thought of the nineteenth century has been made by Dr. J. Theodore Merz to align itself in a stately march of no fewer than ten views of nature: the astronomical, the atomic, the kinetic, the physical, the morphological, the genetic, the vitalistic, the psychophysical, the statistical, and the mathematical views.

Yet all would agree, I think, that in mathematics, physics, chemistry, biology, and psychology we have a logical series carefully co-ordinated in subject-matter and sequence, furnishing the theoretic foundations for the applied sciences of engineering, economics, eugenics, and education. Furthermore, there would also be agreement in the opinion that this co-ordinated series should be flanked both right and left by

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history and its interpretation, as a great laboratory in which to test all plans for political or social reform; by philosophy, as a clearing-house for all theories and methods of knowledge; by letters, as the record in "thoughts that breathe and words that burn" of all human striving after sweetness and light; and by art, the creative imagination's flowering product in the ennobling and enriching of the content of life. Our studies are thus to be centered in the fundamental branches of pure science with a view to solutions of problems of applied science in engineering, whose chief business is the development of the material resources of the world; in economics, whose cardinal problem is that of the distribution of the wealth thus produced; in eugenics as the newest of the sciences, but really in idea no younger than Plato, which by taking thought would add cubits to the stature of the race; and finally in the latest of the experimental sciences, namely, education itself, in whose philosophical, psychological, and physiological foundations are now being sought the surest means of training the intellects and stimulating the imaginations of men.



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## V

### THE UNIVERSITY: ITS SAINTS AND SEERS

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AS thus projected on a background of philosophy, history, letters, and art, the programme of this university of science stands forth in the effigies and inscriptions which have been cut in the walls of this the first house of the home of its spirit.

On the caps of the cloister's granite columns appear the heads of sixteen founders, leaders, and pioneers in

Religion . . . .	St. Paul
History . . . .	Thucydides
Philosophy . . . .	Immanuel Kant
Art . . . . .	Michelangelo
Jurisprudence . . . .	Thomas Jefferson
Medicine . . . . .	Pasteur
Engineering . . . .	De Lesseps
Commerce . . . . .	Christopher Columbus
Mathematics . . . .	Sophus Lie
Physics . . . . .	Kelvin
Chemistry . . . . .	Mendeleeff
Biology . . . . .	Charles Darwin
Electric Oscillations .	Heinrich Hertz
Aerodynamics . . . .	Samuel Langley
Radioactivity . . . .	Pierre Curie
Eugenics . . . . .	Richard Galton



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The obvious guiding call in this consistory of canonization was to pass from the ancient enterprises of humane learning to the modern endeavors of scientific exploration. An accident of considerable interest is the circumstance that in the first group are a Greek, a Hebrew, a Latin, and a Teuton, while in the last are representatives of America, England, France, and Germany.

On the exterior wall of the Faculty Chamber the threefold dedication is emblazoned in marble tablets to letters, science, and art. The Tablet to Letters bears the head of Homer, below which is inscribed Mackail's translation of Pindar's tribute to style:

"The thing that one says well goes forth with a voice unto everlasting."

The Tablet to Science bears the profile of Isaac Newton together with Job's anticipation of the method of scientific inquiry in his


"Speak to the earth and it shall teach thee!"


The Tablet to Art bears the head of Leonardo da Vinci, under which is inscribed:

"The chief function of art is to make gentle the life of the world."

Adapted, after some modifications, from certain of Abbey's mural decorations in the State Capitol of Pennsylvania, modeled by C. Percival Dietsch, and executed by Oswald Lassig, are the two life-size draped figures adjoining the court side of the arch of the sally-port on the left and right


Universitas Pennsylvaniae  
Academiae a Gulielmo Marsh Luce Condita  
S. P. D.

ccepiimus, Viri Illustrissimi, litteras vestras, quibus nos quoque ad sollemnia vestra concelebranda benevole invitastis et vobiscum novam vestram Academiam tam feliciter auspicantur ex animo gaudemus. Quod vero nos legatum ad ferias vestras mittere voluistis, gratias agimus plurimas.

ibentissimum erga vestrae obsecuti voluntati, e Senatu nostro elegimus Promagistram nostrae Universitatis

Asiala Harmer Penniman

Philosophiae Legumque Doctorem, nec non Litterarum Anglicarum Professorem, qui gratulationes votaque Magistri factorum Senatus Universitatis Pennsylvaniae ad vos perferat et sit cum testis laetitiae vestrae tum particeps.

nnes autem speramus fore ut Academia vestra, universitatum Americanarum quasi soror natu minima, tam bonis auspiciis in lucem edita, multos per annos vitam agat generi humano utilem semperque gloria crescat.

Valete.



Edward Robin

Ab Epistulis.

Edgar F. Smith,  
Magister

Dabamus Philadelphiae, Kalendis Octobribus.

Anno Domini milensimo, nongentesimo duodecimo.



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respectively: one, symbolic of Science, screening her gaze under the cautious and somewhat uncertain lead of reason, proceeds under Aristotle's dictum:

"If we properly observe celestial phenomena we may demonstrate the laws which regulate them";

the other, symbolic of Art, in an inspirational attitude, with neither fear in her face nor faltering in her step, emerges from the chiseled intuition of Plotinus that

"Love, beauty, joy, and worship are forever building, unbuilding, and rebuilding in each man's soul."

Again, under the shield of the State of Texas and the shield of the Rice Institute and the Flowering Magnolia of the City of Houston, the chief stone of this building bears what is perhaps the best expression of the Spirit of Science in any tongue: a Greek inscription in Byzantine lettering, from the *Præparatio Evangelica* of Eusebius Pamphili, the first historian of the Church, which, in the translation of the late Samuel H. Butcher, reads:

" 'Rather,' said Democritus, 'would I discover the cause of one fact than become King of the Persians,' "

—a declaration made at a time when to be king of the Persians was to rule the world. In thus preserving in the twentieth century of our era this utterance of exultant enthusiasm for knowledge for its own sake, from a representative philosopher of that people who originated the highest standards in letters and in art, the trustees of the Institute have sought

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to express that disinterested devotion both to science and to humanism which the founder desired when he dedicated the new institution to the advancement of literature, science, and art.

From inspiration out of the past we pass to the inspiration of the living, and in particular to the heartening hail of those savants who have come or stretched their hands across the seas to us on this occasion. Under sunny skies whose clear air makes clear minds blandly or keenly observant of the world, with winds fair, on the anniversary of Columbus's arrival, we too are setting out on a voyage of discovery in three small craft whose lines and keels and turrets you have had opportunity to examine and admire. We pledge your standards at the masthead and your spirit in the crew, but until we find our treasure island, where faith and promise brighten into performance and achievement, we have none but empty honors to offer you. Rather do we ask you to honor us still further by allowing us to place in the stateroom of the flagship the following tablets in commemoration of your visit to the fleet:

Professor Rafael Altamira y Crevea, of Madrid, Spain: late Professor of the History of Spanish Law in the University of Oviedo; Director of Elementary Education in the Spanish Ministry of Public Instruction; a scholar of recognized authority in the history of jurisprudence and politics, and a statesman whose public service has extended with increasing usefulness beyond the borders of his own country to the educational institutions of the Latin-American nations.

Professor Emile Borel, of Paris, France: Director of Scientific Studies at the Ecole Normale Supérieure; Editor-in-chief of *La Revue du Mois*; Professor of the Theory of



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Functions at the University of Paris; successful in the discharge of exacting duties as administrator, educator, and editor, his studies in mathematical analysis worthily maintain the standards of scientific work established by the historic line of French analysts extending from Lagrange and Laplace to Hermite and Poincaré.

Senator Benedetto Croce, of Naples, Italy: Life Senator of the Italian Kingdom; Member of several Royal Commissions; Editor of *La Critica*; an original and profound thinker, both constructive and critical, whose philosophy of the spirit, and in particular its theory of æsthetics, has compelled world-wide attention on the part of artists, philosophers, and men of letters.

Professor Hugo de Vries, of Amsterdam, Holland: Director of the Hortus Botanicus and Professor of the Anatomy and Physiology of Plants in the University of Amsterdam; a careful observer and patient investigator of the phenomena of growth and change in living things, whose studies and experiments of a quarter of a century have resulted in capital contributions to the theories of heredity and the origin of species.

Professor Sir Henry Jones, of Glasgow, Scotland: Fellow of the British Academy; Professor of Moral Philosophy in the University of Glasgow; Hibbert Lecturer on Metaphysics at Manchester College, Oxford; an erudite editor and expositor of great movements of reflective thought in poetry and philosophy and religion, and himself a genial human philosopher who has elaborated a working faith for the social reformer and professed the doctrines of idealism as a practical creed.

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Privy Councilor Baron Dairoku Kikuchi, of Tokyo, Japan: late Japanese Minister of Education; formerly President of the University of Tokyo, and later of the University of Kyoto; recently Lecturer on Japanese Education at the University of London; a publicist of distinction and a close student of affairs, one of the pioneers in the introduction of Western learning into Japan, who has rendered his native land patriotic service in the organization and administration of its schools and universities.

Professor John William Mackail, of London, England: formerly Fellow of Balliol College and later Professor of Poetry in Oxford University; a critic who would interpret art as art interprets life, favorably known by his many published lectures on Latin literature and Greek poetry, and himself a poet whose English pure and undefiled is scarcely surpassed in our time.

Privy Councilor Professor Wilhelm Ostwald, of Gross-Bothen, Germany: late Professor of Chemistry in the University of Leipsic; Nobel Laureate in Chemistry, 1909; a versatile man of science whose interests and activities range from art through letters into metaphysics, he is justly celebrated as one of the founders of physical chemistry and equally well known as the chief propagandist of a new natural philosophy based on the theories of energetics.

The late Professor Henri Poincaré, of Paris, France: Member of the French Academy; Commander of the Legion of Honor; Professor of Mathematics and Astronomy at the University of Paris; distinguished for discoveries of far-reaching significance in pure mathematics, celestial mechanics, and mathematical physics, a varied intellectual activ-

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ity of extraordinary fertility has secured for him a place of eminence in letters, in science, and in philosophy.

Professor Sir William Ramsay, K.C.B., of London, England: late Professor of Chemistry at University College, London; Nobel Laureate in Chemistry, 1904; President of the Seventh International Congress of Applied Chemistry; a facile experimenter of boldness and ingenuity, who has devised new theories and revived outworn ones in a series of remarkable achievements which of themselves constitute an epoch in the history of the chemical elements and a permanent chapter in the annals of science.

Professor Carl Størmer, of Christiania, Norway: Member of the Norwegian Academy of Sciences; Associate Editor of the *Acta Mathematica*; Professor of Pure Mathematics in the University of Christiania; professorial successor of the illustrious Norse geometer, Marius Sophus Lie, and himself a master of the methods of reckoning who has drawn from the equations of mechanics a new theory of terrestrial magnetism revealing new explanations of the lights of the northern skies and kindred manifestations in the solar system.

Professor Vito Volterra, of Rome, Italy: Life Senator of the Italian Kingdom; Dean of the Faculty of Science and Professor of Mathematical Physics and Celestial Mechanics in the University of Rome; recently Lecturer in the Universities of Paris and Stockholm; an analyst of rare skill whose theories have found manifold applications both in pure and in applied science, he has served his country even more directly as an able organizer of educational and scientific undertakings national in scope and international in influence.



# THE RICE INSTITUTE

## VI

### THE UNIVERSITY: ITS STUDENTS AND STAFF

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FROM the hands of these illustrious citizens of Amsterdam, Glasgow, Leipsic, London, Madrid, Naples, Oxford, Paris, Rome, and Tokyo, the torch of civilization's great commission to think and to teach and to learn is this day passed on to the sons and daughters of the South and the scholars and scientists trained at the universities of Cambridge, Chicago, Harvard, Heidelberg, Leipsic, Michigan, Oxford, Pennsylvania, Yale, Virginia, Wisconsin,<sup>1</sup> who constitute the charter membership of the new institution's academic guild, a company of students and fellows, lecturers and instructors, preceptors and professors, who in a common society would seek to realize a composite conception of the student-universities and the master-universities of earlier times; a voluntary association whose collective will for the present is to be executed by one of their number, who is to

<sup>1</sup> Since this address was written the staff of the new institution has grown to some thirty members who bring to its problems training, experience, or honors from the following universities and colleges: Adelphi, Auburn, Balliol (Oxford), Berlin, Bethany (West Virginia), Birmingham, Bonn, Cambridge, Centre, Chicago, Christiania, Clark, Columbia, Cornell, Davidson, Drake, Emmanuel (Cambridge), Georgia, Göttingen, Harvard, Heidelberg, Illinois, Johns Hopkins, King's (London), Leeds, Lehigh, Leipsic, Liverpool, London, McGill, Michigan, Minnesota, Missouri, Munich, Northwestern, Oberlin, Oxford, Paris, Pennsylvania, Pittsburg, Princeton, Robert, Rome, Southwestern, Stanford, Trinity (Cambridge), Tulane, Union, Vermont, Virginia, Washington (College), Washington (University of), Wesleyan, Williams, Wisconsin, Wooster, Yale; and the student members of an academic community of about three hundred souls come from some seventy-five towns in Texas and fifteen States of the Union, among them holders of degrees from Austin, Georgetown, Missouri, Phillips, Robert, Union, and Vanderbilt, and former students of Austin, Baylor, Daniel Baker, Georgia School of Technology, Howard Payne, Illinois, Lehigh, Marion Institute, North Texas Normal, Oklahoma (Agricultural and Mechanical), Randolph Macon, St. Mary's, Sam Houston Normal, Simmons (Texas), Smith, Sophie Newcomb, Southwestern, Sweet Briar, Texas (Agricultural and Mechanical), Texas (University of), Trinity (Texas), United States Military Academy.

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play the rôle of middleman between the public and the university, the trustees and the staff, the staff and the students, the students and their parents and guardians; a society of scholars which from the first aspires to be "a partnership in all science, a partnership in all art, a partnership in every virtue and in all perfection"; and "as the ends of such a partnership cannot be obtained in many generations," to appropriate still further Burke's conception of the state, "it becomes a partnership between those who are living, those who are dead, and those who are to be born."

Democracy of science and republic of letters, nowhere mere empty phrases, meet in this partnership an unusual opportunity for translation into living actualities. Except for the organization indispensable to the efficient discharge of business, subject only to limitations of character and intellect, here are leisure and work and liberty, freedom in initiative, freedom in invention, the freedom that alone invites inspiration to thought and action. As at the University of Virginia from the earliest days, and more lately at the University of Chicago, distinctions of academic rank and title will appear in official calendars but find no place in classroom or on the campus. For purposes of organization and administration each member of the university will naturally fall into one or more of three grand divisions: Science, Humanity, Technology. As has already been intimated, each of these divisions will eventually consist of several faculties: under Science we should have mathematics, physics, chemistry, biology, psychology, and so on, together with their applications in the fields of engineering, economics, education, and so forth; under Humanity would appear history, philosophy, letters, politics, and so on to art and religion; while Technology would embrace science, humanity, and technology as professions of teaching or research, the



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older learned professions of law, medicine, theology, and the newer ones from engineering, architecture, and agriculture on down to the more recent acquisitions of commerce, banking, and public administration.

The first larger divisions of the Staff of the new university to assume form will be a faculty of science and a faculty of letters. In the discharge of their functions these bodies will be aided by administrative committees constituted of their own members. To the duties of the officers of certain of these committees deans will succeed when the growth of the institution shall have called for more elaborate and more highly differentiated machinery of organization and administration. Administrative work, of increasing complexity in any modern university, is likely to make frequent calls on the time and judgment of its ablest and best trained members in the first days of a new one, but it is hoped to reduce the burden of these demands considerably by consistent and sharp differentiation between the constructive and critical, and the clerical. To meet the direct duties of administration in schools and departments, laboratories and museums, chairmen will be appointed annually and without regard to seniority. The Staff will assemble, and at regular intervals, in at least three different series of meetings: scientific, social, and business. Through the first of these the work of its members in the capacity of creator, critic, or censor will be assessed in its relations to productive scholarship; by the second, the university will be kept in intimate touch with the life of its community, and many a plan may trace its start to a bowl of punch or the pouring of tea; and finally, through the third of these series of meetings the Staff will consider, subject to the approval of the trustees, the conduct of the academic life of the university in respect of scholarship, research, teaching, and public service.

THE  
University of Wisconsin  
TO

The William ORICE Institute for the  
Advancement of Literature, Science  
and Art

Greeting and Congratulation  
upon the opening of her halls to public use.

Convinced that in the field of academic service there is equal room  
and equal need for the state supported University and for  
the Institution based upon private munificence, Wisconsin welcomes  
to generous rivalry and cordial fellowship a new sister and friend  
with felicitation upon her opportunities and sanguine hope for the  
fruition of her plans.

In testimony whereof there are set unto these letters,  
upon this first day of October, Anno Domini, 1912, the  
seal of the University of Wisconsin and the hand of its President.



Charles R. Van Hise  
President

W. M. Mc Caffrey  
Secretary



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In America the spirit of scientific investigation has, certainly until recently, found its best expression in the college and the university, and among the men of science associated with these foundations. To be sure, research institutions, as for example the Scientific Bureaus of the United States Government, the Carnegie Institution of Washington, the Rockefeller Institute in New York, and, earliest of all, the Smithsonian Institution in Washington, independent of universities, have abundantly justified their existence among us; but no university can live without the vitalizing reaction of original investigation. Even in the Rice Institute's days of hewing of wood and mixing of mortar, work of investigation is not to be allowed to suffer from any inconvenience due to inadequate provision of library and laboratory apparatus. The first investigators may feel their isolation and the absence of atmosphere, but in this day of rapid transit, speedy dissemination of intelligence, and manifold multiplicity of periodical scientific publications, isolation offers no excuse for inactivity, for one cannot spend half an hour in the perusal of a first-class scientific periodical without thinking of at least half a year's things to do.

To the privileges of research and the duties of administration must be added the pleasures of teaching and public lecturing, and if the last phase of this cycle of action is to be efficient the schedules of daily and weekly performances should not be too heavy. Moreover, the time-tables of lecture and laboratory arrangements in each subject of instruction or investigation will be so framed that the first-year students shall be brought directly under the tutelage of the senior members of the university: here again we are appropriating an idea of Thomas Jefferson's for the University of Virginia. Furthermore, this very work of teaching and public lecturing will itself be inspired by the temper of scientific



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investigation; for, as it seems to me, the scientific movement of the nineteenth century has no more striking lesson for the twentieth than that an inquiring mind is the safest guide for an inquiring mind: that the best man to lead the learner from the unknown to the known is the man who is continually leading himself from the unknown to the known, not only in point of encyclopedic and specialized knowledge, but also in point of new knowledge contributed by himself to the store of learning. Was Burke not right when he said that "the method of teaching which approached most nearly to the method of investigation is incomparably the best, since, not content with serving up a few barren and lifeless truths, it leads to the stock out of which they grew; it tends to set the learner on the track of invention and to direct him into those paths in which the author has made his own discoveries"? And Burke said this half a century before the scientific renaissance. Nor was Burke an impractical dreamer, for, in his speech on the petition of the Unitarians, he also said: "No rational man ever did govern himself by abstractions and universals. . . . A statesman differs from a professor in a university. The latter has only the general view of society. . . . A statesman, never losing sight of principles, is to be guided by circumstances; and, judging contrary to the exigencies of the moment, he may ruin his country forever."

Finally, to the energy and invention of the planner, to the enthusiasm and initiative of the producer, to the erudition and imagination of the professor, must be added the energy and enthusiasm and erudition of the preceptor, whose power of summary statement in exposition, whose infinite capacity for details in explanation, whose persistent example and occasional exhortation in manners and morals, must conspire with strength of personality to win and guide the student's



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interest in his reading and writing quite as much as in his thinking and in the meeting of his formal obligations to the university's standards and scheme of studies. This order of ideas goes back to a modification of the Oxford and Cambridge tutorial system which President Wilson introduced at Princeton University several years ago. And the finest thing about the introduction of President Wilson's preceptorial system at Princeton University was not the bringing of forty preceptors to Princeton at one blow, but rather the calling of every professor of the university to personal participation in the plan as preceptor. The success of that system at Princeton is to be attributed to this professorial participation no less than to the larger part taken in the execution of the plan by the specially appointed junior members of the staff.

Thus it appears that a professor's work is never done. Probably no expenditure of his time meets with smaller return than that employed on editorial duties. Moreover, in a time when the world is flooded with printing one should hesitate to increase the number of printed pages. Nevertheless, in order to facilitate the prompt publication and distribution of the products of its library, laboratory, and lecture activities, the new university proposes to maintain a few periodical publications of its own. Perhaps the most serious of these will be the *Annals of Letters, Science, and Art*, to appear ultimately in several series, carrying the contributions of its own and other scholars to knowledge. Simultaneously with these quarterly quartos there will appear *The Rice Institute Pamphlets*, in octavo form, at least four times a year, containing occasional addresses, courses of lectures, and smaller papers of current and timely interest. And finally, at least for the present, the *Circulars of Information* concerning the Rice Institute, in the numbers of which will be published the annual calendar, the programmes of study,

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and other announcements of the undergraduate and graduate life of the institution.

'T is a bold man who would take upon himself the gift of prophecy, but from the birth of the science of the stars to the physics of the ether and the ion it has been the province of the professor to prophesy; sometimes, as the prophet of old, to "stand like a wall of bronze, and an iron pillar, against the whole land, against the kings of Judah and the princes thereof"; but always striving, in the spirit of a modern philosopher whose noble words might be turned into a command and written over the door of every library, laboratory, and lecture-hall as a motto for all seekers after truth, to "cherish as a vital principle an unbounded spirit of enquiry and ardency of expectation, unfetter the mind from prejudices of every kind, leave it open and free to every impression of higher nature which it is susceptible of receiving—guarding only against self-deception by a habit of strict investigation—encourage rather than suppress everything that can offer the prospect of a hope beyond the present obscure and unsatisfactory state. The character of the true philosopher is to hope all things not impossible and to believe all things not unreasonable. . . . Humility of pretension no less than confidence of hope is what best becomes his character." It is the business of the professor quite as much as it is the business of the successful promoter to get results out of the future by anticipating them through his knowledge of the past and his understanding of the present. On such an occasion as this it is hard not to prophesy. This academic festival provides the first alignment of the Rice Institute with other institutions. It is the placing of a new university on the map of the earlier universities. The new institution comes as a rival to none, as a competitor of none, but as a child hoping to grow in favor, to gain the confidence and to win the re-

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spect of older foundations. It is the advent of a man-child that we have witnessed, and some of us believe we have discovered in its form the features and bones of a giant. And I like to think that within ten or twenty years the staff and students of whom I am now speaking will have grown to be a residential community of at least a thousand souls—or, say a staff of a hundred members and a society of students a thousand strong. And the year that number, one thousand, has been reached—a graduate group of two hundred and an undergraduate group of eight hundred—we propose to say that in the year following only the best thousand among the applicants for admission, whether old or new, shall be received, and to persevere in this process of selection year by year for another score of years. This determination of ours has been accorded hearty support by many of our guests on this occasion; for if they have urged one thing above another upon us, that one thing has been to keep the standards up and the numbers down. It is through such standards in scholarship and service severely maintained, and by a process of selection through these standards of culture and character, that the exceptional man is likely to be discovered. And, after all, is not this last discovery one of the highest forms of service within our aim?

For the maintenance of these high standards we have promising material with which to begin. These first students who have come to us have come to us on faith; they have left the beaten paths to established institutions; they have left the company of their fellows to come to a new institution; and to this institution they have come unsolicited and unheralded; they have thus shown some independence of judgment, something of initiative, somewhat of the spirit of adventure, and these are the things by which men are judged and singled out from among their fellows at every stage of



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the game of life. For these reasons we believe that we make no mistake in banking on these young men and women and the future of the new university at their hands.

And if we hope that this academic community is to be distinguished by high standards in scholarship, we also hope that the student life of the community is to be equally distinguished for its system of self-government. The latter system is already assuming form through the constitution of an honor system for the conduct of examinations, and the institution of student government in the first halls of residence.<sup>1</sup> With these two strong determinants of public opinion, the extension of student control to the entire campus should prove to be a comparatively simple undertaking. In the so-called honor system in examinations there is nothing novel to many American institutions. Two generations ago such a system grew into existence at the University of Virginia, and some years later found a congenial atmosphere at Princeton. Since these beginnings it has grown into the life of many other colleges. On the other hand, in some universities it has been tried without success. In the first days of a new one, however, when all traditions and customs are in the making, it promises well. And because of this same freedom—that is to say, freedom from tradition—the Rice Institute is pre-eminently fortunately situated to undertake the building of halls of residence as an integral part of its programme. As a matter of fact, the residential college idea is a prominent one in the plans of the new institution. At the time these plans were being made the idea was stirring in the air about many of the older universities. It was at Princeton

<sup>1</sup> The Honor Council this year (1914-15) has representatives from three classes, and in another year will have become a permanent institution in the university. In the conduct of examinations during the first two years of the institution's existence, this council has been vigilant in its care. The government of the residential college is in the hands of an elective board of representatives, chosen one each from the ten or a dozen separate houses into which the hall of residence is divided.

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that President Wilson proposed to give the idea concrete form in the reorganization of the social life of that ancient seat of learning. The programme there suggested was an adaptation of the English residential college to American undergraduate life. A similar plan had been elaborated by Dean West some years earlier for a future school of graduate studies at Princeton, and the latter plan has come to realization in the Gothic halls and towers of the Princeton Graduate College about to be dedicated. From Oxford and Cambridge the idea goes back to the University of Paris, the mother university of all modern ones, which consisted originally of residential colleges. In the Paris of the present day the type reappears in the *Ecole Normale Supérieure*, founded by Napoleon, and in the more recent *Fondation Thiers*. Moreover, in Berlin an original suggestion of Fichte's in his scheme for a university has led lately to proposals for such a development at the university which bears the name of that city; while at the same time in our own country the University of Wisconsin has plans for residential halls already worked out and awaiting funds from the State; Cornell University has undertaken such a plan, the first buildings of which are soon to be constructed; and Harvard has planned for the freshmen of the university a group of such colleges to be ready for early occupancy.

The first of these experiments in college democracy at Rice finds its dedication on the corner-stone of its building, where, under the shield of the Institute, there appears the simple inscription: "To the freedom of sound learning and the fellowship of youth." Here is being realized an old seventeenth-century definition of education—William of Wykeham's "the making of a man."<sup>1</sup> For here in the resi-

<sup>1</sup> This definition of education was made the subject of his inaugural discourse at Princeton University by President Hibben, at whose recent installa-



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dential college men live in freedom, checked only by self-mastery and gentle manners, a freedom of the kind that Goethe meant when he said, "He alone attains to life and freedom who daily conquers them anew"; here they grow in wisdom, not alone in the wisdom of books but also in the wisdom of work and service; here they find the incom-

tion there appeared for the first time in an American academic procession an official representative of the Rice Institute.

In many respects the present address is a chronicle of first things—first either in point of time or in point of import.

The first scientific papers by a member of the Rice Institute were presented to the American Mathematical Society and the American Philosophical Society.

The first foreign reference to the new foundation was made by Dr. Henry van Dyke in a public lecture at the Sorbonne in his course on "The Spirit of America" as visiting professor at the University of Paris, in which, speaking of the development of education in our country, he said: "Nor has this process of assimilation been confined to American ideas and models. European methods have been carefully studied and adapted to the needs and conditions of the United States. I happen to know of a new institution of learning which has been recently founded in Texas by a gift of ten millions of dollars. The president-elect is a scientific man who has already studied in France and Germany. . . . But before he touches the building and organization of his new Institute, he is sent to Europe for a year to see the oldest and the newest and the best that has been done there. In fact, the Republic of Learning to-day is the true Cosmopolis. It knows no barriers of nationality. It seeks truth and wisdom everywhere, and wherever it finds them, it claims them for its own."

The first printed scientific papers to be dated from the Rice Institute were published in the "American Journal of Mathematics," the "Cambridge Journal of Pure and Applied Mathematics," the Proceedings of the American Philosophical Society, and "Science." The first address by a member of the Institute was a vice-presidential address before the Baltimore meeting of the American Association for the Advancement of Science, which included some results of a paper presented previously at the Dublin meeting of the British Association for the Advancement of Science. The first literary addresses written at the Rice Institute were a Phi Beta Kappa address on the mind and temper of science, delivered at the University of Virginia in June, 1910, and a commencement address on the spirit of learning, delivered at the University of Texas in June, 1911.

The first scientific paper to go out from the laboratories of the Institute was one by Mr. and Mrs. H. A. Wilson, published in the Proceedings of the Royal Society of London; while the first scientific paper to be published by a student of the Institute was one by Mr. Eric R. Lyon, an undergraduate, which appeared in the "American Physical Review."

The first book to carry "Rice Institute" on its title-page was Mr. J. S. Huxley's Cambridge manual on "The Individual in the Animal Kingdom." The second such book was Mr. A. L. Hughes's "Photo-electricity," issued by the Cambridge University Press, and now in process of translation into German in Germany. Books from the pens of Mr. Guérard and of Mr. and Mrs. Tsanoff, though prepared elsewhere, have appeared in print since their authors came to Houston. Furthermore, Mr. Wilson has a new book in the



The Chancellor and Senate of The University  
of Sydney to the President and Council  
of The Rice Institute, Houston, Texas.

In the name of the Senate of The University of Sydney, I thank the President and Trustees of the Rice Institute for the invitation to send a representative to the Inaugural Ceremonies that are to celebrate the beginning of its career. At this great distance it is difficult in so short an interval to make the necessary arrangements for availing ourselves of the honour; but we have appointed one of our number, William D. Warren, F.F.D., M.Sc., M.Inst.C.E., Challis Professor of Engineering, now travelling in Europe and America, to act as our delegate, if his arrangements permit. Should, however, this be impossible, and should we fail to be personally represented, we nevertheless in all sincerity desire to transmit our cordial greetings and good wishes to the new University; and to express our hopes that the splendid auspices under which it is established, may be overshadowed by the celebrity that it hereafter attains, and that its portion of promoting the intellectual interests of mankind may be realised in the achievements of its future teachers and alumni. Nor can we refrain from congratulating a kindred community which, though older than those in the Southern Seas, is, like them, a new growth in a new world, in the enlightened liberality of its private citizens that has in so many cases led to the munificent endowment of culture and research, and that now once more receives so conspicuous an illustration.

We trust that in remote generations the Rice Institute may still be fulfilling its benificent mission in all prosperity and fair fame.

H. MacLaurin  
Chancellor.

R. B. Wallen  
Acting Registrar.



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parable fellowship, warm comradeship, and joyous companionships of college years; here they live in the unconquerable enthusiasm, the fearless courage, the boundless hope of youth. A faithful characterization of the spirit of the hall is found in the following lines from Wordsworth's "Prelude":

*Nor was it least  
Of many benefits, in later years  
Derived from academic institutes  
And rules, that they held something up to view  
Of a Republic, where all stood thus far  
Upon equal ground; that we were brothers all  
In honour, as in one community,  
Scholars and gentlemen; where, furthermore,  
Distinction open lay to all that came,  
And wealth and titles were in less esteem  
Than talents, worth, and prosperous industry.  
Add unto this, subservience from the first  
To presences of God's mysterious power  
Made manifest in Nature's sovereignty,  
And fellowship with venerable books,  
To sanction the proud workings of the soul,  
And mountain liberty.*

In this first residential hall students and staff are already living in a common society a common life under conditions

press, Messrs. Caldwell, Daniell, Evans, and Guérard have books in the making, Messrs. Axson and Dumble have courses of public lectures on literature and science in manuscript awaiting publication in the Pamphlets of the Rice Institute, while Messrs. Daniell, Evans, Graustein, Guérard, Hughes, Huxley, Reinke, and Tsanoff have contributed to literary and scientific periodicals papers which were written at the new university.

Though this recital does not attempt to be exhaustive, no account of the initial scholarly work of the new institution should fail to mention the inaugural lectures and other performances of the formal opening to which reference has already been made. The omission here of details concerning the first Rice Institute university extension lectures will be supplied in a subsequent paragraph of this paper.



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the most democratic. They sit at a common table; they lounge in common club-rooms; they frequent the same cloisters; in games they meet again upon the same playing-fields. The quadrangle is self-governed, with no other machinery of government than is necessary to conduct a gentlemen's club. To the quadrangle, as to the college, the only possible passports are intellect and character. In the quadrangle, as on the campus, the business of life is to be regulated by no other code than the common understanding by which gentlefolk determine their conduct of life, constantly under the good taste, the good manners, the enduring patience of gentle minds, among strong men who believe that he lives most who works most, labors longest, worries least. Each hall is to have its own literary and debating society, its own religious association, and its own musical and athletic organizations.<sup>1</sup> A little later in the history of the Institute similar colleges will be provided for the young women. It is hoped that ultimately all students of the Institute will be

<sup>1</sup> From the start the students of the Rice Institute, irrevocably committed to canons of clean sport, have participated, under the direction of Mr. Arbuckle, in all forms of intercollegiate athletic contests. Following the organization of the Rice Institute Athletic Association, the first society of students to be organized at the Rice Institute was the Young Men's Christian Association. This step on the part of the young men was speedily followed by a similar step on the part of the young women in the organization of their branch of the college Young Women's Christian Association. Each of these religious associations has held regular meetings continually since. Both have contributed to the social life and the religious spirit of the Institute. Regular classes in Bible study, meeting weekly throughout the year, are being conducted by Messrs. Johnson and Tsanoff. The college student, above all his kind, is a political animal, and, to a degree far beyond what some people think, a religious being. For this reason it is gratifying to say that the internal religious forces of the new institution have been constantly and consistently growing in strength. The founding of the religious societies was followed by the forming of three literary societies, one by the young women, bearing the name of Elizabeth Baldwin, wife of the founder of the Institute, and two by the young men, known respectively as "The Owl Literary Society" and the "Riceonian Literary and Debating Society." These societies have met weekly from the date of their organization, and have held occasional intersociety meetings in public debate. Though founded by student initiative, the literary and debating societies have called to their assistance in an advisory capacity a committee consisting of Messrs. Arbuckle, Axson, Daniell, Evans, Huxley, Hughes, and Watkin.



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housed in such halls of residence. For example, the residential section for men calls for a great quadrangle of quadrangles, whose main axis terminates at one end by a great gymnasium and at the other by a great union club. In the gymnasium all students will receive systematic work in physical education, while the union will offer many opportunities open by competition to members of all colleges, for among these colleges there will arise the liveliest sort of rivalry in scholastic standing, in field sports, in musical, literary, and debating activities. To those students who for one reason or another are obliged to live in the city the union will afford many of the opportunities of the residential hall. By thus providing in the way of dwelling halls units larger than those provided heretofore in American institutions it is hoped to preserve and to maintain the present democratic conditions of life which obtain on the campus of the new university. And to that end, side by side with the building of great laboratories of investigation and halls of instruction is to proceed the building of these collegiate homes for human living. Each of these homes will have its roll of honor and hall of fame, and, even as the older colleges, will point with pride to men of initiative and achievement who were former members of the hall. Though these halls may not go as far as Balliol College went under Jowett's mastership and receive as students only those who are candidates for honors, yet, "scorning delights" and "living laborious days," may they not look forward to a time when their historian may say as does Mr. W. W. Rouse Ball of his college, Trinity, Cambridge—to name another English college represented in the first faculty of Rice: "This particular staircase, which I have taken as a typical one, contains one Fellow's set, five undergraduates' sets, one of which is now used by the porters, and an odd room. The rooms on the ground floor

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on the right-hand side on entering the staircase were occupied by Thackeray, and later by the present Astronomer-Royal; those on the opposite side, by Macaulay; the rooms on the first floor next the gate were occupied by Isaac Newton, and later by Lightfoot, afterwards Bishop of Durham, and R. C. Jebb, the Greek scholar; and those on the opposite side by J. G. Frazer, who has done so much to investigate the habits of thought of primitive man. This is an interesting group of men, but in fact there are few rooms in the college which have not been inhabited at some time by those who have made their names famous."

A distinguished mathematician in Germany said very recently that American college spirit is the greatest need of the German university. To this academic audience college spirit is neither novel nor unreal. The boldness in commenting upon it may be pardoned when I remind you that it itself is freedom, courage, comradeship. It is the freedom of sound learning and the fellowship of youth; it is the spirit of solidarity, the spirit of co-operation, the collective spirit of corporate unity. It appears upon the rostrum, at the desk, and in the field, on the gridiron and the diamond and the track. Always it is the spirit of romance, occasionally of revelry, sometimes of reformation, and frequently, in its most serious and sober moments, bent on nothing more sober or serious than recreation. In manners it demands simplicity and sincerity; in morals, honesty and integrity. It laughs at pedantry, howls at the pompous, rebels at cant, exults in candor. In judgment merciless, if not always unerring; in action immediate, if sometimes unreflecting; of robust adventure "that buildeth in the cedars' tops and dallies with the wind and scorns the sun"; of virile sport that "greet the unknown with a cheer and bids him forward." It rings in the song after defeat as well as in the shoutings of victory.

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It is progress and purpose and pluck and prayer, though certain of these aspects reveal themselves only upon analysis somewhat refined. It owns the college, loves the college, runs the college. Let this be the spirit of Rice.

If I have adequately described this incense of college spirit as it rises from the college campus, all that I have said and a great deal more is necessary properly to characterize that informing spirit of the college itself whose sources are in conference, cloister, and council-chamber. This informing spirit is more than opinion and impulse and enthusiasm, though inspired and directed by each of them in turn. It is more than tradition and custom and law, though continually molded by all three. It is the spirit of science and the spirit of service. Sustained by such hard and homely supports as concentration of study, co-ordination of studies, co-operation of students, and capitalization of student activities, its life is continually renewed by the native and unceasing demands of the human spirit for the sweetness and light of culture, for the strength and charity of character, for the law and order and security of enlightened citizenship. It is the brain of the college, the heart of the college, the soul of the college. May this also be the spirit of Rice.

There is nothing unusual in insisting that the spirit of one's college is democratic. Every college in the country contends that it has the spirit of true democracy; the only difference, if any, is that here we do have it. It is equally true that every good thing in college life has been a subject of criticism, and this is well, for criticism is the way to health, while complacency may be on the way to stagnation. No feature of organized college life has been the subject of greater criticism than the organized devotion to athletic sports, both in the college and among the colleges. In climatic conditions where outdoor life is easily possible



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throughout the year, the new institution will have to face its problems in athletics resolutely. This will be the more necessary because we believe to a man in outdoor sports; for quite as important to the student as his home and standards, as his habits and studies, are his hobbies and his sports. We used to advocate athletics to make the boy a man; we now advocate athletics to keep the man a boy. Youth! eternal youth! lived in a fountain of perpetual youth! This is one of the great compensations of the academic life. Generations of college men may come and generations go, but youth, joyous and eternal in its spirit, runs on through all these comings and goings. And this contagion has spread beyond the academic atmosphere, for everywhere there is the determination to die a hundred years young. This determination is best realized through systematic and regular physical exercise: it may be throwing the discus, hurling the hammer, putting the shot, wielding tennis racquet or golf stick, participating in football, baseball, and other sports in season, felling trees, driving a motor-car, or steering an airplane. Equally advantageous is a similar system of mental gymnastics to discipline the intellect and stimulate the imagination by some serious study wholly independent of one's vocation: for example, the *Iliad* or Euclid, the *Principia* or the *Novum Organum*. However, inasmuch as we do no less of our thinking with our hearts than with our heads, it becomes imperative that the springs of our impulses be kept strong and pure. That is to say, the emotions must be held sane and normal; this equilibrium is perhaps best maintained by interest or skill in art. A study and a sport and a song! Personal prejudice might lead me to suggest mathematics, meadow-running across country, and music. In conclusion, and on the mighty element of this triad, the great defense of college sports is that sane devotion to them which leads not



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only to healthy living but to clean living. The dangers lie in over-training, in high specialization, in professional tendencies in the highly developed team, making sport for the few and spectators of the many. The problem is to get the student crowds off the bleachers and in the blazers. Some of these difficulties we hope to meet by giving athletic training a place in the curriculum, by encouraging class, club, and college competitions, by fostering the sportsman's spirit of amateur sport in all meets—a temper which I can perhaps best express by quoting the following striking and appropriate lines from a short poem by Mr. Henry Newbolt, entitled "Clifton Chapel," which appeared in the "Spectator" of September 10, 1898:

*To set the cause above renown,  
To love the game beyond the prize,  
To honour while you strike him down  
The foe that comes with fearless eyes.  
To count the life of battle good,  
And dear the land that gave you birth,  
And dearer yet the brotherhood  
That binds the brave of all the earth.*

In thus writing about the students of Rice, I have written of their standards, their spirit, and their sports; I have yet to write, and as briefly as possible, of their studies, their shields, and their songs. I have told these students—these outriders of a host, these torch-bearers of the sun-dawn, these conquerors of a new day, these forerunners of a throng that is ultimately to be many thousand strong—these first students of the Rice Institute, I have told them that they are the Rice Institute. These beautiful buildings are its tene-ment of clay, but the staff and students its brain and heart, determining and regulating the flow of thought and the flow

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of life in its being: in them its character and intellect, its standards in scholarship and sports, assume concrete form; in them its spirit and temper find a body; without their presence these quadrangles would be empty, these halls silent; without their co-operation these plans would become ineffective, these programmes unfulfilled. But with their help, which they have given heartily, and with their hopes, which well up constantly, the dry bones of an academic programme are coming to life, and these dry bones live. Probably the most joyous expression of that life will find itself in the songs of the students. These songs, inarticulate in our hearts, will one after another be called to vocal expression by the great days and crises of our life. We shall have our "Fair Harvard," "Old Nassau," "Hail, Pennsylvania," and "The Eyes of Texas are upon You." With Yale men we too shall sing of this "Mother of Men," and to "Alma Mater" with Stanford, Johns Hopkins, Chicago, and Cornell. Under the Lone Star of Texas and the Owls of Rice, under the Blue and Gray floating from their standards—a blue still deeper than the Oxford blue, and the gray of Confederate days warmed into life by a tinge of lavender—they shall sing their songs; sing of jasmine, magnolias, and roses, poinsettia and violets blue; they shall cheer their teams and their heroes for the deeds of valor they do in field or forum or class-room; for Rice and for Houston and Texas they shall cheer and shout and sing—sing of campanile stately and their college near the sea, sing of sunset on the prairie, of the moonrise through the pine-trees, of the Spanish moss and liveoak, of the Quad's fair towers and cloisters, of undying loyalty; songs of sentiment and devotion giving rise to songs of service, inspired by the device on their banner, a Homeric device,

*Αἰὲν ἀριστεύειν καὶ ὑπεροχὸν ἔμμεναι ἄλλων,*

THE FEDERAL TECHNICAL HIGH  
SCHOOL IN THE CITY OF ZURICH,  
Switzerland, thanks most cordially for the kind invitation sent to her by  
THE PRESIDENT AND TRUSTEES OF  
THE RICE INSTITUTE OF LIBERAL  
AND TECHNICAL LEARNING

founded in the City of Houston, Texas U. S. A.,  
to be present at the Inauguration of the Institution.

**N**ot want of interest for this new seat of learning, nor the great distance that separates us from you might detain us from offering our wishes personally, but the impossibility for any member of our staff to be absent at the very beginning of the new academic year. We beg, therefore, to accept our sincere congratulations in the form of this address, and to believe in our kindest feelings toward you and your institution.

May the Rice Institute with its splendid new buildings, its colleges and halls, its laboratories and libraries, become a rich source of culture and erudition, a great promoter of noble and useful knowledge in your prosperous country.

The President  
of the Board of Trustees:

*W. J. Johnson*

The Rector  
of the Federal Technical High School:

*Charles F. Taylor*

Zurich, Switzerland, September 1912.





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a line appearing twice in the Iliad at vi, 208, and xi, 784, said to have been the favorite of Alexander the Great and used by him to exhort his men on the great expedition; a device borne also as αἰὲν ἀπιστεύειν by the students of St. Andrews, who, in the days when we were laying the foundations of this building, were celebrating the five-hundredth anniversary of the founding of their own university. In the longer of Pope's two translations the line reads:

*To win renown,  
To stand the first in worth as in command;  
To add new honours to my native land;  
Before my eyes my mighty sires to place,  
And emulate the glories of our race.*

And on the flag of these Rice students are two shields, a shield of the State of Texas and the shield of the Rice Institute. The latter heraldic device was designed by Mr. Pierre de Chaignon la Rose of Cambridge, Massachusetts, who has ingeniously combined the main elements of the arms of the several families bearing the names of Rice or Houston. The problem was simplified by the fact that the shields of some ten Rice armorial bearings were always divided by a chevron, always carried three charges, and when these charges were not crows they were ravens. Curiously enough, the shields of the half-dozen Houstons who bore arms were always divided by a chevron, while here again the three charges were birds, and these were always martlets. Accordingly it was decided to employ a double chevron, and since neither the crow nor the raven nor the martlet had any historical academic standing, owls of Athena were chosen for charges, and in the remarkable form in which they appeared on a small silver tetradrachmenon of the middle of the fifth

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century before Christ. The choice of colors was rather more difficult, and is a long story; but to make that long story short, among the several ends to be desired were, that the combination of colors should be stable, should not trespass upon the five or six hundred combinations already chosen by other institutions, should harmonize with State and national emblems for purposes of decoration on gala occasions, should be standard colors easily and economically procurable, and finally they should jump with local climatic conditions—that is to say, plenty of color and yet cool in the warm sun of summer, delicate and yet of sufficient life if days should perchance be dull. At least some of these ends were attained in the combination of blue and gray described in the preceding paragraph, namely, the Confederate gray enlivened by a tinge of lavender, with a blue still deeper than the Oxford blue.

In an earlier section of this address I have sketched in broad lines the scope of the new university's work and the range of its studies. I have implied our belief that the college and the professional school thrive best in a university atmosphere. I have also said that this university programme with us is to have no upper limit, and that its lower limit is to be no lower than that of the more conservative colleges and universities of the country; that is to say, the Rice Institute's programme will include within its schedules of studies no courses of grade lower than collegiate grade. The opportunity to found a great secondary school, as was the opportunity to devote the entire resources of the foundation to a single professional school, was tempting and equally promising. Neither of these courses, however, would have kept full faith with the will of the founder as expressed in the charter and testament, nor would either have served the city and the State quite as fully as the one finally adopted.

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Accordingly it is as a university that the Institute proposes to begin, a university of liberal and technical learning, where liberal studies may be studied liberally or technically, where technical subjects may be pursued either technically or liberally, where whatever of professional training is offered is to be based as far as possible on a broad general education.

Candidates for admission to the Institute who present satisfactory testimonials as to their character will be accepted either upon successful examination in the entrance subjects or by certificate of graduation from an accredited public or private high school. The terms of admission to the Institute are based on the recommendations of the Carnegie Foundation for the Advancement of Teaching as expressed in the Documents of the College Entrance Examination Board. While seeking to develop its students in character, in culture, and in citizenship, the Rice Institute will reserve for scholarship its highest rewards, and in particular for evidences of creative capacity in productive scholarship. To encourage this devotion to learning a series of undergraduate scholarships and graduate fellowships will be devised, to be awarded preferably to those students who have been in residence at the Institute for at least one year. Moreover, the varied opportunities for self-help in a growing institution in a large city should aid in enabling any young man of determination to earn his education in a thoroughly democratic college community. There may thus be realized the founder's desire that the advantages which his philanthropy would make possible should be brought within the reach of the promising student of slender means.

Although it is the policy of the new institution to develop its university programme rather more seriously from the science end, there are also being provided facilities for elementary and advanced courses in the so-called humanities,



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thereby enabling the Institute to offer both the advantages of a liberal general education and those of special and professional training. Extensive general courses in the various domains of scientific knowledge are available, but in the main the programme consists of subjects carefully co-ordinated and calling for considerable concentration of study. These programmes have been so arranged as to offer a variety of courses in arts, in science, in letters, and in their applications to the several fields of applied science, leading after four years of undergraduate work to the degree of bachelor of arts. Degrees will also be offered in architecture and in chemical, civil, electrical, and mechanical engineering. Furthermore, for the degrees of master of arts, doctor of philosophy, and doctor of engineering every facility will be afforded properly qualified graduate students to undertake lines of study and research under the direction of the Institute's resident and visiting professors. Thus it appears that Rice would interpret in a very large way its dedication to the advancement of letters, science, and art. It would look not only to the employment of these principles in the development of the life of the individual and in that of the race, but it would also play its part in the progress and enlargement of human knowledge by the contributions of its own resident professors and scholars. We believe that to this end there should be a constant and close association of undergraduate work and postgraduate work, that any proposals which would tend to their separation would be injurious to both. "A hard and fast line between the two is disadvantageous to the undergraduate, and diminishes the number who go on to advanced work. The most distinguished teachers must take their part in undergraduate teaching, and their spirit should dominate it all. The main advantage to the student is the personal influence of men of original mind. The main



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advantage to the teachers is that they select their students for advanced work from a wider range, train them in their own methods, and are stimulated by association with them. Free intercourse with advanced students is inspiring and encouraging to undergraduates. The influence of the university as a whole upon teachers and students, and upon all departments of work within it, is lost if the higher work is separated from the lower." Accordingly, there should always be associated with the staff of the Institute a group of advanced students in training for careers both as teachers and researchers: with this end in view, graduate fellowships will be awarded from time to time to degree-bearing students of the Institute or other educational foundations of similar standing. As a matter of fact, in the academic year 1914-15 there are in residence two fellows in mathematics, two in physics, and one in biology.

The academic schedules of study drawn up in the immediately succeeding sections of this address had not been prepared in detail when the address was being written. They have grown gradually into form out of the general and local experience of the faculty of the Institute. They are taken from preliminary announcements, to which they were contributed on recommendation of the staff after discussions of proposals submitted by a committee on studies and schedules consisting of Messrs. Axson, Evans, Guérard, Huxley, and Wilson, resident members of the faculty.

The programmes of courses leading to the degree of bachelor of arts after four years of study are of a common type for the first two years, but for the third and fourth years are differentiated into two forms: first, general courses leading to the degree of bachelor of arts, either with some grade of distinction or without special mention; second, honors courses leading to the same degree with first, second, or

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third class honors. These two types will be referred to in the sequel as general courses and honors courses, respectively. The general course leading to the degree of bachelor of arts has been arranged to give thorough training to those students who are seeking university instruction in literary and scientific subjects either as a part of a liberal education or as preliminary to entrance upon a business or professional career. The general course therefore involves the study of several subjects up to a high university standard, but does not include a highly detailed specialized study of any one subject such as is necessary before research work or university teaching can be profitably undertaken. Students wishing to specialize with a view to research work and university teaching may either take an honors course and then proceed by graduate study to the degrees of master of arts and doctor of philosophy, or they may first take a general bachelor of arts course and after completing it proceed by graduate study to the higher degrees.

The attention of students intending to enter the profession of engineering or architecture will be constantly called to the great advantages in first taking a general or honors course before beginning special study in engineering or architecture. As a matter of fact, the time is coming when in the South there will be demand for a place where a bachelor's degree will be required for admission to courses in engineering and other domains of applied science, and when that time comes the Rice Institute intends to occupy that place. However, in the face of present local conditions such a severe standard can only be reached through an evolutionary process that may occupy a score of years or a generation. For the present the Institute will not offer courses leading to professional degrees in law and medicine, but students looking forward to such careers will find in the earlier years of

**T**he Rice Institute, on the occasion of the opening of its doors to students, Cornell sends greeting and hearty congratulations.

**T**he broad, humanitarian ideals upon which The Rice Institute is founded are so like those which, about fifty years ago, actuated Ezra Cornell and Andrew White, leading to the founding of Cornell University, that there should always be a strong bond of sympathy joining the two institutions; and the hope is here expressed that The Rice Institute may develop in the future beyond the fondest dreams of its founder, even as Cornell has in the past.

**T**he greeting and congratulations of Cornell University will be presented by Professor C. W. Nichols, one of her most distinguished scientists.

*Thomas Sedwick Crane*

Acting President.



*Ithaca, New York  
Nineteen Twelve.*





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the bachelor of arts courses all the requirements for admission to many medical and law schools, provided suitable subjects are chosen. However, in view of the fact that several of the leading professional schools of law and medicine are now requiring a bachelor's degree for admission, all such students are urged to proceed to this degree before entering upon specialized study preparatory to the practice of their profession.

To students of architecture the Institute offers a full course extending over five years, leading to the bachelor's degree at the end of the fourth year and to an architectural degree at the end of the fifth year. It is the purpose of the course in architecture to lead men during their residence to a comprehensive understanding of the art of building; to acquaint them with the history of architecture from early civilization to the present age; and to develop within them an understanding and appreciation of those conceptions of beauty and utility which are fundamental to the cultivation of ability in the art of design. The course has been so arranged as to include certain indispensable elements of liberal education and also such engineering and technical subjects as are becoming more and more necessary to the general education of a practising architect. Of the more strictly architectural subjects, design is given by far the largest place. As a matter of fact, the courses in history and design and those in free-hand drawing, in water-color, in drawing from life, and in historic ornament have all a double object: to create in the student an appreciation of architectural dignity and refinement, and to increase constantly his ability to express conceptions of architectural forms. Accordingly the training of the student must not be limited to the training in draftsmanship alone, but all courses should conspire to the cultivation of creative and constructive ability in expression

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and design. With a view to keeping in touch with the progress of his profession and with the daily routine and detail of its practice, it is strongly recommended that the student spend his summer vacations in the office of some practising architect.

Courses will be offered in chemical, civil, electrical, and mechanical engineering. A complete course in any one of these branches will extend over five years. A student who has successfully completed the first four years of a course will be awarded a bachelor's degree, and after successfully completing the remaining year of his course he will receive an engineering degree. The work of the first three years will be practically the same for all students, but in the last two years each student will be required to select one of the special branches mentioned above. The work of the first two years will consist chiefly of courses in pure and applied mathematics, physics, chemistry, and other subjects, an adequate knowledge of which is absolutely necessary before the more technical courses can be pursued with advantage. During the first two years, however, a considerable amount of time will be devoted to engineering drawing and the elements of surveying. Technical work will begin in the third year<sup>1</sup> with courses of a general character in mechanical engineering, civil engineering, and electrical engineering, all three to be taken by all engineering students, including those in chemical engineering. These courses will form an introduction to the technical side of each branch, and should enable students intelligently to select a particular branch at the beginning of their fourth year. In the third year instruction will also be begun in shopwork. The classes in shopwork are intended

<sup>1</sup> As a matter of fact, during the present academic year (1914-15) members of the junior class are receiving lecture and laboratory courses of general and introductory character in engineering and architecture at the hands of Messrs. Diamant, Hitch, Humphrey, Pound, Tidden, Van Sicklen, and Watkin.

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to give familiarity with shopwork methods. The object of these classes is not primarily to train students to become skilled mechanics, but to provide such knowledge of shop methods as is desirable for those who may be expected as engineers to employ mechanics and to superintend engineering shops. It is intended in the engineering courses to pay special attention to the theoretical side, because experience has shown that theoretical knowledge is difficult to obtain after leaving the university, and without it a rapid rise in the profession of engineering is almost impossible. On the other hand, it is not intended to disregard practical instruction. For this reason the last three years will include, besides shopwork, a variety of practical work in engineering testing-laboratories. It is recommended that students obtain employment in engineering work during the summer vacations, for it should be remembered that no amount of university work can take the place of learning by practical experience in engineering establishments and in the field. The courses in engineering are not intended to take the place of learning by practical experience, but are designed to supply a knowledge of the fundamental principles and scientific methods on which the practice of engineering is based, and without which it is difficult, if not impossible, to succeed in the practice of the profession. Students who can afford the time are recommended to devote three or four years to preliminary work instead of two, taking the bachelor of arts degree at the end of four years and an engineering degree at the end of six years. Students proposing to do this are advised to take a course devoted largely to mathematics, physics, and chemistry, or an honors course in either mathematics, physics, or chemistry. The subjects taken during the years of preparatory work must include those of the first two years in the general engineering course, which may be



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substituted for electives in the academic bachelor of arts course. The honors course in physics is strongly recommended for those who wish to become either electrical or mechanical engineers.

As has already been intimated, the course for the degree of bachelor of arts extends over four years. During the first two years a considerable part of the work is prescribed, while during the last two years each student is allowed, with certain restrictions, to select the subjects he studies. In the majority of the courses the formal instruction offered consists of three lectures a week, on alternate days, together with laboratory work in certain subjects.

The academic year is divided into three terms, but as a rule the year is the unit of the courses rather than the term. In addition to informal examinations held at irregular intervals, there are formal examinations at the end of each of the three terms. In determining the standing of a student in each class, both his work during the term and the record of his examinations are taken into account.

Of subjects included in the bachelor of arts course the following are now available:

Group A: English, French, German, Spanish, economics, education, history, philosophy, architecture.

Group B: pure mathematics, applied mathematics, physics, chemistry, biology, chemical engineering, civil engineering, electrical engineering, mechanical engineering.

Instruction in the classics is also offered on demand.

Candidates for the degree of bachelor of arts of the Rice Institute are required for the first two years of their course to select studies from the preceding groups according to the following yearly programmes. First year: pure mathematics, English, a modern language, a science, and one other subject. Second year: pure mathematics or a science, Eng-



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lish, a modern language, and two other subjects. Students who enter with credit in two modern languages may substitute another subject for modern languages in the second year. At the beginning of the third year students may elect to take either a general course or an honors course. The third year general bachelor of arts course consists of four subjects, of which two must have been taken in the second year and one in both first and second. At least one subject from each of the groups A and B must be taken. Students will receive advice in the selection of their subjects. The fourth year general bachelor of arts course includes four subjects, two of which must have been taken in the third year and one in both second and third. At least one subject from each of the groups A and B must be taken. To students who have completed the general course the bachelor of arts degree will be awarded either with some grade of distinction or without special mention. The third and fourth year honors courses are intended for students who wish to specialize in particular branches of knowledge with a view to research work or teaching or later professional studies. In view of these special objects, the requirements in such courses will be more severe than in the general courses in the same subjects. For this reason it is recommended that students exercise due caution and seek advice before electing to take an honors course. Only those students who have shown in their first and second years that they are especially well qualified will be permitted to take an honors course. A student proposing to take such a course must satisfy the department concerned that he is qualified to proceed with the study of that subject. He will be required to take the lectures and practical work provided for honors students in that subject during each of the two years, and in addition certain courses in allied subjects. The degree of bachelor

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of arts with first, second, or third class honors will be awarded, at the end of the fourth year, to students who have completed an honors course. Honors courses in mathematics and physics were given during the academic year 1913-14. In 1914-15 honors courses will be available in pure and applied mathematics, and theoretical and experimental physics. In addition to these, honors courses in modern languages and literatures and in biology will be offered in 1915-16.

A student who has completed a general or an honors course for the bachelor of arts degree may obtain the master of arts degree after the successful completion of one year of graduate work. A candidate for the degree of master of arts must select a principal subject and will be required to take such courses in that subject and allied subjects as may be determined for each individual case. He will also be expected to undertake research work under the direction of the department of his principal subject, and must submit a thesis embodying the results of his work. A student who has completed a general course for the bachelor of arts degree may obtain the degree of doctor of philosophy after not less than three years of graduate study and research work. A student who has obtained the bachelor of arts degree with first or second class honors may obtain the doctor of philosophy degree after not less than two years of graduate study and research work. Candidates for the degree of doctor of philosophy must submit a thesis and pass a public examination. For the year 1914-15 graduate courses will be given in biology, pure and applied mathematics, and theoretical and experimental physics.

From the preceding systematic schemes for academic and scientific work, it would appear that the Rice Institute aspires to university standing of the highest grade as an institution

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of liberal and technical learning, dedicated to the advancement of letters, science, and art, by instruction and by investigation, in the individual and in the race, its opportunities for study and research being open, without tuition and without fees, both to young men and to young women. Moreover, to recapitulate more broadly, the new university, subject neither to political nor to sectarian affiliations, is governed by a self-perpetuating board of seven trustees, elected for life. Under a definite educational policy and comprehensive architectural plan, it is being built and maintained out of the income of its funds of approximately ten million dollars for endowment and equipment. On its campus of three hundred acres, in a half-dozen initial laboratory, lecture, and residential buildings of extraordinary beauty, there are at work in the academic session of 1914-15 a teaching staff of some thirty members, all inspired by the spirit of research, maintaining highest standards of entrance requirements and of scholastic standing after admission, offering university courses in liberal arts, pure and applied science, architecture and engineering; a small group of graduate students in mathematics, physics, and biology; a self-governed democratic undergraduate body of freshmen, sophomores, and juniors, of more than two hundred and fifty members, from some seventy-five towns in Texas and fifteen States of the Union, the first freshman class having been received in September, 1912, to earn the first degrees, which will be conferred in June, 1916.



# THE RICE INSTITUTE

## VII

### THE UNIVERSITY: ITS SHADES AND TOWERS

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**N**O sketch of the university's programme, however slight, would be complete without some descriptive account of the general architectural plan, according to whose principles of beauty and utility students and staff are to be provided with theaters of action, groves for reflection, laboratories of discovery, libraries of knowledge, fields for sport, halls for speech and song, homes for complete living, and all dedicated to the freedom of sound learning and the fellowship of youth. At the risk of repetition, several details of this rather ambitious scheme will now be recited.

It is not difficult to plan for fifty years, nor is it difficult to plan for five years: difficulty enters only when it is necessary to plan at one and the same time for the immediate future and for the next hundred years. The problem is to design a scheme which is so flexible as to be capable of indefinite expansion along prescribed lines of educational policy and physical environment, and which at the same time is sufficiently compact and so closely articulated as to be comfortably and economically efficient in the earlier stages of its development. The plan about to be described briefly is an evolution out of some thirty-five or forty preliminary studies. In its final form it is believed to represent with fidelity the educational programme of the new institution, and to meet, with some measure of success, the demands of local geography, subsequent growth, initial harmony, and final unity.

Behold a campus of three hundred acres, a tract as irregular in form as if purchased in Boston, with four thousand



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feet frontage on the Main Street of Houston. Unfold the map we have made, for a great deal of the meaning of this new institution appears in its lanes and lawns, its walks and drives, its cloisters and retreats, its playing-fields and garden courts, its groups of residential halls for men, its halls of residence for women, its gymnasium, and stadium, and union, its several quadrangles of laboratories in science pure and applied, its schools of liberal arts, of fine arts, of mechanic arts, its chapel and choir, its lecture-halls and amphitheaters, its Greek playhouse and astronomical observatory, its great hall with library and museum wings, its graduate college of research and professional schools. Of the four main entrances to the three-hundred-acre campus, the principal one lies at the corner of the grounds nearest the city. From this entrance the approach to the Administration Building is a broad avenue several hundred yards long, ending in a fore-court, which will be bounded on the left by the School of Fine Arts, on the right by the Residential College for Women. The main avenue of approach coincides with the central axis of the block plan, and from the principal gateway opens up through the vaulted sally-port of the Administration Building a vista of more than a mile within the limits of the campus. After dividing at the fore-court the driveway circles the ends of the Administration Building and continues for half a mile in two heavily planted drives parallel to this axis and separated by a distance of seven hundred feet. Within the extended rectangle thus formed the pleasing effect of widening vistas has been realized. On passing through the sally-port from the fore-court, the future visitor to the Institute will enter upon an academic group consisting of five large buildings, which with their massive cloisters surround on three sides a richly gardened court measuring three hundred by five hundred feet, planted in

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graceful cypresses. Beyond this group is another academic court of still greater dimensions planted in groves of live-oaks; this Great Court in turn opens into extensive Persian gardens beyond which the vista is closed at the extreme west by a great pool and the amphitheater of a Greek playhouse. The principal secondary axis of the general plan, starting from the boulevard and running north perpendicularly to the main axis, crosses the lawns and courts of the Liberal Arts and Science groups into the Mechanical Laboratory and the Power-house, the first buildings of the Engineering Group. The fourth entrance on Main Street leads to the athletic playing-fields and the Residential Colleges for Men. While each unit of the latter group has its own inner court, the several buildings themselves together inclose a long rectangular court bounded at the eastern end by a club-house, an adaptation of the Oxford Union, and on the west by the Gymnasium, which opens on the Athletic Stadium in the rear. North of the men's residential group and across the Great Court, lying between the Botanical Gardens and the Laboratories of Pure and Applied Science, appear the splendid quadrangles of the Graduate School and its professional departments; south and west of the latter quadrangles will rise the domes of the Great Hall with its Library and Museum wings, and the Astronomical Observatories, respectively.

Although designed to accommodate the executive and administrative offices when the Institute shall have grown to normal dimensions, the Administration Building will be used during the first few years to meet some of the needs of instruction as well as those of administration. The building is of absolutely fire-proof construction throughout; it is three stories high, three hundred feet long and fifty feet deep, with a basement running its entire length. Through a cen-

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tral tower of four stories a vaulted sally-port thirty feet high, leading from the main approach and fore-garden to the academic court, gives entrance to the halls of the building and opens the way to the broad cloisters on the court side. On the first floor, besides offices of registration, there are lecture-rooms, class, study, and conference rooms. In the north wing of the second floor the temporary plans make adequate arrangements for library and reading-rooms; the second and third floors of the south wing are given to a public hall, which, with its balconies, extends to the height of two stories. A little later on in the history of the Institute this assembly hall will become the faculty chamber. The remaining part of the third floor provides additional space for recitation and seminar rooms, and offices for members of the teaching staff. The meeting-room of the Board of Trustees and the office of the President of the Institute are located in the tower.

In its architecture the Administration Building reveals the influence of the earliest periods of the Mediterranean countries: vaulted Byzantine cloisters, exquisite Dalmatian brickwork, together with Spanish and Italian elements in profusion; all in a richness of color permissible only in climates similar to our own. The dominant warm gray tone is established by the use of local pink brick, a delicately tinted marble from the Ozark Mountains, and Texas granite, though the color scheme undergoes considerable variation by the studied use of tiles and foreign marbles. To meet the local climatic conditions the building has been pierced by loggias and many windows, while its long shaded cloister opens to the prevailing winds. The corner-stone of this monumental structure was set in place by the trustees of the Institute on the seventy-fifth anniversary of Texas independence.

Two wings of the first building in the students' residen-



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tial group for men are now ready for occupancy. This quadrangle, consisting of a dormitory and a commons, is placed southwest of the Administration Building, its front approach leading from the fourth campus entrance on the Main Street boulevard. The residential wings are long three-story fire-proof structures with towers of five stories, broad cloisters on the front, and basements extending the entire length. Each wing opens upon a garden on one side, and on the other upon its own court. In arrangement and equipment the buildings are modern and in every way attractive and convenient. Accommodations for about two hundred students are offered in single and double rooms and suites. Lodgings have been provided for several preceptors, and two large halls have been set aside for the temporary use of literary and debating societies. The floors of the wings are so planned as to insure for every room perfect ventilation and absolutely wholesome conditions. There are lavatories, shower-baths, and sanitary connections adequate to the needs of each floor; the power for both light and heat will be received from the central plant. An arcade rather more than one hundred feet in length leads from the dormitory wing across the inner court to the commons which constitutes the northern boundary of the quadrangle. The commons proper includes every detail necessary for the perfect service of all the men living in the residential group and at the same time is of sufficient size and capacity to serve other members of the student body. In addition to the dining-hall and its equipment, this section of the building contains club and reading rooms. It is graced also by a handsome clock-tower, four stories high, surmounted by a belfry: the several floors of the tower have been arranged in suites of rooms to be reserved for the use of graduate students and instructors. As has been intimated already, the other buildings under



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way propose to reveal in brick and marble some of the more subtle suggestions of the southern architecture of Europe and the East, and at the same time to realize the fundamental principles of their sources in a distinctive style of academic architecture for all the future buildings of the Institute. Consistent with the architectural style thus evolved, a pleasing and harmonious variation appears in the treatment of the first residential group, whose several towers and cloisters in brick and stucco are designed to produce an effect characteristically Venetian.

Located at the northern end of the principal secondary axis of the general architectural plan are groups of scientific and technical laboratories. The first buildings of this section of the campus, namely, the Mechanical Laboratory, Machine-shop, and Power-house, have been erected north of the Administration Building at the end of a long direct driveway from the third Main Street entrance. The Laboratory, a two-story fire-proof building two hundred feet long and forty feet deep, with a cloister extending the full length of its court side, is built of materials similar to those used in the construction of the Administration Building. The space of its floors will be given to scientific laboratories, lecture-halls, recitation-rooms, departmental libraries, and offices for instructors in charge, while its basement will afford additional room for further apparatus. Through the Machine-shop the Mechanical Laboratory connects with the Power-house, where is installed equipment for complete steam, refrigerating, and electric generating and distributing systems. The lofty campanile of this group, visible for miles in every direction, will probably be for many years the most conspicuous among the towers of the Institute.

Further improvements of the campus are being gradually effected. An extensive concrete water-proof tunnel has been

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constructed to transmit power—water, steam, electricity, heating, and cooling—from the central plant to all the buildings on the grounds. With a diameter sufficient to admit a man standing erect, the tunnel has ample space for all wiring and piping in positions easy of access, thus insuring perfect care of the equipment and a resultant increase in efficiency. Progress has also been made in the installation of complete sanitary and drainage systems, which, with an unlimited supply of wholesome water, should give assurance of perfect physical conditions at the site of the Institute. The most important driveways, including the main approach to the Administration Building, the drives along the axes leading to the group of scientific laboratories and to the students' residential group, and the long roads inclosing the academic court, have been laid on deep foundations of gravel with surfacing of crushed granite. The planting of double rows of oaks, elms, and cypresses along these drives, and the assembling of hedges, shrubs, and flowers within the gardens and courts of the present groups, will subsequently impress even the casual visitor both with the magnitude and with the beauty of the general architectural plan.

## BOOK OF THE OPENING

### VIII

#### THE UNIVERSITY: ITS STRENGTH AND SUPPORT

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“ ’TIS not the walls that make the city, but the men”; and the men in the day of Pericles were freemen who “pursued culture in a manly spirit, and beauty without extravagance.” Such freemen are the men that build the university. The strength of this foundation lies in its freedom: the freedom to think independently of tradition; the freedom to deal directly with its problems without red tape; the freedom to plan and execute vouchsafed by the will of the founder and the charter of his foundation; the freedom of his seven trustees, seven freemen, who approach its problems of organization, policy, and aim, without educational prejudices to stultify, without partisan bias to hinder, without sectarian authority to satisfy, with open minds accustomed to large problems, with clear heads experienced in tracking the minutest details of business; seven men always ready to reason together, steady and conscientious in reaching conclusions, quick and decisive in action when through common counsel they have come to a common mind respecting any line of action. Indeed, in no circumstance has the new institution been more fortunate than in the circumstance that the foundation and its future are held in trust by a half-dozen Texans, men who have the blood of the pioneers in their veins, the purpose and courage of the pioneers in their hearts, themselves successful men of affairs, who with the characteristic mindedness imposed by the magnitude of the State itself, desire only the best, seek only the best, and think in none but large terms of any problem or enterprise.

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For this reason it is easy to dare and to do great things in Texas, for the men who have been winning this empire are to a man dominated by imperial ideas for it. The dominant idea of these trustees is that here in Texas there should arise an institution great for the future of Texas. Believing that the best is none too good for the sons and daughters of Texas, and determined to give to Texans a better Texas, these men have not hesitated to command the services of men and material and machinery whenever and wherever the best of such services was to be commanded. And in their freedom these trustees are building for the founder a university whose greatest strength likewise is in its freedom: in the freedom of its faculties of science, humanity, and technology, to teach and to search—each man a freeman to teach the truth as he finds it, each man a freeman to seek the truth wherever truth may lead: in the freedom to serve the State because entangled in no way with the government of the State, and the freedom to serve the Church because vexed by none of the sectarian differences that disturb the heart of the Church.

While we rejoice in our freedom from Church or State control, we rejoice none the less in the work of these fundamental and indispensable agencies of civilization, for we can conceive of no university in whose life there does not appear the energy and enthusiasm, the affection and the calm, that we associate in one way or another with reverence, patriotism, politics, and religion. Hence to us, quite as important as is a university's freedom from control by State or Church, are its right relations to each of these two institutions, because upon principles of order, conduct, and knowledge is based our faith in the capacity of the human spirit for progress, and without such basic faith all theories of education become either confused or futile. As a matter of fact, any





The  
UNIVERSITY OF TEXAS  
AUSTIN - TEXAS  
October - 9 - 1912

THE UNIVERSITY OF TEXAS  
ON THE OCCASION OF THE  
INAUGURATION OF THE WM-  
M - RICE INSTITUTE SENDS  
GREETING AND HEARTFELT  
WISHES FOR ITS PROSPERITY-  
PLANNED UNDER THE ENLIGHT-  
ENED GUIDANCE OF PRESI-  
DENT LOVETT, SUPPORTED  
BY ABUNDANT RESOURCES,  
SUSTAINED BY A LOYAL CITY,  
THE INSTITUTE CANNOT  
FAIL TO PLAY A PART OF  
SPLENDID HELPPULNESS IN  
THE UPBUILDING OF TEXAS-

*H. H. Hays,*  
*President.*

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civilized life of men in communities of culture and restraint does demand for its very existence the three great fundamental requirements I have just named—order, conduct, knowledge; and these three primary requisites find their expression in the forms of three great institutions—the State, the Church, and the University. These institutions themselves are not fixed and final but fluid and forming, constantly in the flow of change, in transition from good to better, to meet new requirements of a changing world and a growing humanity. In their present mutual relations, the State, the master of the sword and peace; the Church, the guardian of the soul and purity; the University, the servant of each of them in preserving to men the mastery of their spirits. The State guaranteeing to the University intellectual freedom, to the Church religious freedom; the University in freedom of thought and research constantly enriching the State with the theory of its own greatness, constantly recalling the Church to the theories of life wherein all men are made free; the Church in its turn sustaining the Nation and supporting the University in high ideals of progress and ultimate triumph. These three institutions constitute the triple alliance of civilization: the patriot, the priest, and the professor, the great triumvirate of progress, preserving to citizen, saint, and scholar political freedom, intellectual freedom, religious freedom, guaranteeing to all liberty in the pursuit of happiness, liberty in the pursuit of knowledge, liberty in the pursuit of heaven. This threefold freedom, this threefold liberty, brings to citizen, saint, and scholar corresponding obligations. Their greatest obligation, greatest service, individual and collective, to the State is to enlighten public opinion; to the Church, is to conserve faith; to the University, is to save the human race through universal education, universal but not necessarily uniform,

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voluntary where possible, compulsory when necessary, competitive and selective always.

These obligations the State and the Church have made noble efforts to meet in Texas. From the early days of the Republic the Church has been the founder of colleges and the State the patron of learning. Each is constantly seeking for its institutions the means for better equipment, for larger endowment, for greater efficiency in service.<sup>1</sup> We honor the

<sup>1</sup> In most recent days, on the initiative and faith of one man, Mr. Will C. Hogg of Houston, an alumnus of the University of Texas and son of a distinguished governor of this commonwealth, there has been formed and endowed, under the auspices of the University of Texas Alumni Association, of which Mr. Edwin B. Parker of Houston is president, an Organization for the Enlargement by the State of Texas of Its Higher Institutions of Learning. This so-called Hogg Organization is prosecuting its work under a Board of Control of which Dr. Sidney E. Mezes, president of the University of Texas, is chairman, Mr. F. M. Bralley, State superintendent of public instruction, is executive secretary, and Mr. Arthur Lefevre, formerly State superintendent of public instruction, is secretary for research. Among the objects of the present programme of this organization is the education of public opinion, from platform, press, and pulpit, by frank accounts of the present equipment of the educational institutions directly under the patronage of the State of Texas, and by comparative studies based on the history of the State institutions of other States of the Union. This movement has as its final object—and this final object is bound in time to be attained—the removal of all the State-supported educational institutions, namely, the Agricultural and Mechanical College of Texas, the College of Industrial Arts, the several State Normal Schools, and the University of Texas, entirely from the sphere of political influence, and their relief from the necessity of depending on appeals to the legislative bodies of the State government for periodical appropriations to meet expenses of maintenance and equipment.

And the denominational institutions are keeping pace. The Baptists, with the help of a donation from the General Education Board of the Rockefeller Foundation, are adding substantially to the endowment of Baylor University under the leadership of President Samuel P. Brooks; the Christians, burnt out at Waco, are building at Fort Worth a new Texas Christian University under the presidency of Dr. Frederick D. Kershner; the Methodists are adding to the resources of Southwestern University at Georgetown under President Charles M. Bishop, and with the assistance of an appropriation from the Rockefeller Foundation are building in Dallas a new institution to be called the Southern Methodist University, with Dr. Robert S. Hyer as president; while the Presbyterians are rebuilding Austin College at Sherman under President Thomas S. Clyce, are seeking increased endowment for Trinity University at Waxahachie under President Samuel L. Hornbeak, and, under the leadership of the president of their educational board, Dr. Robert E. Vinson of Austin, are proposing to add at least one new college to their list of institutions in Texas. Moreover, at the Rice Institute we have already felt the influence of the educational institutions maintained by the Catholic Church at Dallas, Galveston, Houston, San Antonio, and other points in Texas, and we have also felt a similar influence on the part of the Hebrew faith which has not been lacking in stimulating the development of education and the advancement of learning in Texas.



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State and the Church for the work they have done. Even more do we honor them for the greater work they are proposing to do, for education in Texas. We modestly but confidently hope to aid them in this work, for it would be pleasant to think that this new university in Texas is the best thing that could have happened to every other university of Texas. The pioneers believed in education for all the people as the surest safeguard of their free institutions. Said Sam Houston, "The benefits of education and of useful knowledge, generally diffused through a community, are essential to the preservation of a free government." Said Mirabeau B. Lamar, "Cultivated mind is the guardian genius of democracy. . . . It is the only dictator that freemen acknowledge and the only security that freemen desire." With these pioneers we their successors believe that in the character of the cultivated citizen lies the strength of the civilized State. In writing thus a cardinal article of our creed I have used the phrase "cultivated citizen" deliberately and advisedly. I am quick to take off my hat to the self-made man, and among people so democratic as is this people there will never come a time when any door of opportunity will be closed to him. But the race with the college-trained man the self-made man is finding a race severer and severer. Even as recently as a decade ago the college man was compelled to defend the course he had pursued, but more lately, in business as in professional life, his demonstrated and enduring potentialities have been steadily and surely placing him in the lead. Nor in public life has it come to pass by accident in our national history, that the leading candidates in the last two presidential campaigns should have been graduates of Harvard and Yale, respectively, and the three leading candidates in the present presidential campaign be graduates, respectively, of the oldest, the next oldest, and

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the next to the next oldest of American colleges, Theodore Roosevelt of Harvard, William Howard Taft of Yale, and Woodrow Wilson of Princeton. That our best trained men are showing a growing disposition to enter earnestly into political life, is a most encouraging sign for the future of our government. For an increasing number of our men of education are entering the field of public life to possess it for the common weal, and they are transforming it into a place where men may take up their residence, live honestly, and be held in honor. In disinterested public service they are transforming the politics of the professional politician, whose problems are sometimes mean, into the politics of the statesman and patriot, whose problems are always large. I believe in holding up careers in practical politics as inviting ones to vigorous young men of broad academic training, men of the same fiber and stuff and consecration as are those who turn their backs on remunerative callings and possible commercial success to enter the ministry and other humanitarian professions. Honor might come slowly, but honors are not the chief thing, though I know of no more inviting or promising field where a man might hope to gain the world of greatest opportunity and at the same time save his own soul in unselfish service to his fellow men. It was to just such disinterested active participation in public life that one of our great presidents, the late Grover Cleveland, called his fellow citizens at a notable academic celebration several years ago. "Of the many excellent speeches at the two hundred and fiftieth anniversary of Harvard College," wrote the late Mandell Creighton to the London 'Times,' "none was of more general interest than that of President Cleveland, who, with great modesty, deplored his lack of university education, and exhorted men of learning to take a greater part in public affairs. 'Any disinclination,' he said,

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'on the part of the most learned and cultured of our citizens to mingle in public affairs, and the consequent abandonment of political activity to those who have but little regard for the student and the scholar, are not favorable conditions under a government such as ours. And if they have existed to a damaging extent, recent events appear to indicate that the education and conservatism of the land are to be hereafter more plainly heard in the expression of the popular will.' "

Texans have not been slow in responding to calls to public service from State or Nation. Such calls they have not infrequently answered with conspicuous public service. But if Texas has sent publicists to Washington, bankers, college executives, and railway presidents to San Francisco, St. Louis, Chicago, and New York, Texas has hardly held her own with the rest of the country in science and scholarship, whose service is equally important to State and society. Nor in this respect has the South as a whole held her own, but for that matter the country itself is just beginning to hold its own in science and scholarship with the rest of the world, and there are better days ahead of Texas and the South. These better days will call for leisure as well as learning, for the philosopher as well as the promoter, for men of daring to think as well as men of courage to act, for men whose thoughts are their deeds, men who can exclaim with Hegel, "Das Denken ist auch Gottesdienst." The call to the vocation of scholar or scientist this address makes a thousand times, from its initial line to its final paragraph. Where it is not a call it is a charge or a challenge, and appeal follows on appeal where argument does not follow argument. A great wave of agitation and enthusiasm for vocational education has been passing over the entire country. We have felt the force of this wave, but on the top



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of the wave the Rice Institute would place vocational education for science, for scholarship, for citizenship, training for the vocation of scientist, training for the vocation of scholar, training for the vocation of citizen. There is not a man in this company to-day who does not envy the inventive scholar his idealism, his intellectual freedom, his fearless pursuit of truth, his persistent devotion to the things of the spirit. Nor is there a man within earshot who does not envy the practical philosopher his resourceful, practical sense. In these reactions we have one of the larger ends of education, for one of the great ends of education as a social work in our time is on the one hand to glorify the workaday world with the idealism of the poet and painter, the preacher and professor, and on the other hand to humanize and inform the world of science and art and letters with the practical purpose and poise of the calculating captains of industry and commerce. Perhaps I may combine the two orders of ideas on which I have touched in no better way than by saying that learning in our day is no longer an affair of the cloister and the clinic alone; it is also of the mill, the market-place, and the machine-shop. In fact, a not unfamiliar conception of the university itself is that of a mill for converting the youth of the commonwealth into citizens of the State. Its function is to transform mind into a higher order of mind; the mind of the individual, the mind of the community, the mind of the State, the mind of the race, into a higher order of mind. Its business is to train efficient thinking men for the business of life. In reality, the earliest mediæval universities were professional and technical schools. It was largely as a professional school for the training of the minister and the schoolmaster that the early American college flourished. The original learned professions were theology, medicine, and law. We are adding engineering to this original list by



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making its elemental doctrines the means of liberal culture as well as the groundwork for a profession which is fundamental to all industrial and commercial progress. Similarly we are adding architecture and education, and a little later agriculture. With us, men for these professions are to be scientifically equipped through special training based on a broad foundation of liberal education. And as regards this broad foundation of liberal education, our ideas of liberal and technical learning have been experiencing a transition from rather strict delimitation to bounds broader and broader. By liberal learning we no longer mean the so-called classical humanities alone, but also the new humanism constituted of modern civilization and modern culture, of modern letters and modern science. And by a foundation for technical training in applied science we now mean the great range of physical sciences which at one time could be subsumed under the term natural philosophy; the great range of active biological sciences which have developed from the ancient descriptive science of natural history; the great range of psychological and philosophical sciences which, under the influence of scientific method, have grown out of the older mental and moral philosophy; and finally, the larger range where men are still seeking science, in which the sciences of matter and of life and of mind are to be extended to the crowd, to the community, and to civilization itself as objects.

In the immediately preceding paragraphs of this section of my remarks I have spoken of the strength that the new university possesses in its freedom, in its faith, and in its faculties of science, humanity, and technology, as well as in the financial resources of its foundation. I have also pointed out several ways in which that strength is to issue in service to State and Church and society through science and schol-

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arship and citizenship. In the several concluding paragraphs I desire to call attention to certain other sources of strength and support—sources of human strength that support the university—and to some aspects of the larger relations of a university's life.

Education does not begin with the university, nor does it end in the university. It is a matter of life, the whole span of life, and both before and after. The Church finds its continuance beyond the death of a man, and science has been teaching the State to look for its beginnings far in advance of the birth of the child. "Is it not strange," asks Thomas Traherne, "that a little child should be heir to the whole world?" To secure that heritage for the child, man's collective force and knowledge conspire, in a century "in which the care and love of children have taken their place as the first general solicitude of all civilized societies." Ours has been called the century of the child. No known age of the world's history before our own could have painted the picture of "the innumerable children all round the world trooping morning by morning to school, along the lanes of quiet villages, the streets of noisy cities, on sea-shore and lakeside, under the burning sun, and through the mists, in boats on canals, on horseback on the plains, in sledges on the snow, by hill and valley, through bush and stream, by lonely mountain path, singly, in pairs, in groups, in files, dressed in a thousand fashions, speaking a thousand tongues." This panorama of the world repeats itself in Texas. In the schools for the children of Texas and the South lie the deeper roots of this new university's life. The foundations on which we build are laid by these schools of the State and the Church. The upper limit of their work determines the lower limit of ours. On the religious side, the foundations are laid by the Sunday-schools and the private preparatory

The President of the Peace Institute  
Dr. Edgar Wall Hewett

London, Ohio  
U.S.A.

Sir:-

The Board of the Nobel Foundation begs to acknowledge the receipt of your highly appreciated invitation, and to express its sincere appreciation of our Board's attendance at the formal opening of the new University, which your distinguished institution has reached to erect, and especially with its sincerest thanks for the honor.

The Board has with great interest taken part of the programme for the future institution and of the historical sketches of its buildings. It also shares with general interest, that the university intends to give attention to international and investigation in physics and chemistry, two of the domains for which our institution, Alfred Nobel, the founder of our institution, has provided

annual prizes.

The Board has however with much regard to announce to you, that it is prevented from being personally represented at the ceremony of inauguration, which certainly would have been most interesting and instructive.

The Board begs however to convey to you, Sir, and to the honored trustees of the Institute its warmest congratulations and to express the hope, that the magnificent plans for this scientific institution may meet with a full realization for the honor of your country and your city, for the advancement of science and - greeting Alfred Nobel's fundamental words of our institution - for the benefit of mankind.

Most sincerely yours

TO NOBELSTIFTELSEN

S. M. Wall Hewett  
President

Secretary  
Nobel Institute, the 1st August 1912





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schools maintained by the churches; on the secular side, by the public schools maintained out of public funds, and by private secondary schools which may or may not be independent of religious control. In America the separation of State and Church is sharp and distinct in matters of government; this separation is also sharp and distinct in matters of education. Religious teaching thus excluded from the public day-schools is being systematically and thoroughly promoted in the Sunday-schools of the churches. Through steady and marked improvement in their teachers, their methods, their equipment, their curriculum, their grading, and their results, these Sunday-schools are becoming entitled to rank as a part of our national system of education. As regards the schools for secular education in the older States of the South, we find that, largely because of strong individualistic tendencies in those States, the private preparatory school has flourished. The oldest State university in the South, namely, the University of Virginia, was until recently fed almost exclusively by private schools all over the South, manned by University of Virginia men. But the wave of public education, from its earliest springs of source in Massachusetts and Virginia, has spread over the whole South, until now from Virginia to Texas each State is building from the moneys of its public chest an educational highway for all its children from kindergarten to university. This wave, however, has not submerged completely the private schools. Many of these private foundations still survive through providing advantages of small classes, individual instruction, personal supervision, and personal contact in smaller academic communities—advantages which the public schools are not yet able to offer in the same degree. Nor is this wave of public education beating in vain upon the lowlands and the highlands of Texas, for any inquiry into public

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education in Texas would show steady growth and improvement, from earnest beginnings, in at least four things: the laws concerning education; the subjects of instruction and programmes of study; the organization of the teaching, including training and supervision; and the administration of the laws and of the departments created under them. This is neither the time nor the place to go into details concerning public education in Texas, but a few further general observations may perhaps be made with propriety. When the history of public education in Texas comes to be written, the chapter recording the history of our own time will show that the people who are taking thought for education in Texas realize that for State as for private education deliberate organization is necessary, inspired by an adequate theory of education—a theory distilled from the accumulated history of education, a spirit of conscientious striving to deal with three questions: Why is education undertaken? What to teach so as to achieve the ends of education? How to teach so as to educate? That same chapter of history will show that if, with the inevitable hospitality of a new country where all things are open to experiment, there has been a somewhat too ready acceptance of novelties in education, there has also been deep moral earnestness with its abhorrence of semblances and shams, for with us a thorough desire to bring all current opinions—for example, the educational doctrines of such earnest enthusiasts as Mr. Edmond G. A. Holmes of London, Dr. Georg Kerschensteiner of Munich, and Dr. Maria Montessori of Rome—to the test of experience and judgment by results, has always been accompanied by a feeling of the moral duty of spreading knowledge, of popularizing the results of study and making them known to all. It will show increasing desire of our people for a good race and good government, for the city beautiful and the country

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beautiful, for good conscience in matters of truth and good conscience in things of taste—a desire remaining without rest and unsatisfied until all the children of the State shall be in school all the time for nine months of every calendar year. That same chapter will also show quick response to the present popular movements for social centers and play grounds, and more general recognition of the right of every child to live and grow up to the full stature of a man, and the right of every man that labors to some leisure for his own spiritual growth. It will show a growing knowledge on our part that democratic education is of all forms the most costly, and a generous determination on the part of the people to meet the cost through taxation. And, finally, that chapter of history will also record a growing disposition on the part of the people of Texas to provide at the expense of the State all things necessary in the way of education—physical, mental, moral, elementary, secondary, university, scientific, literary, artistic, liberal, technical, or professional—without restriction of subject or kind or grade; without limit of amount or cost; without distinction of class or race or creed or sex or age. This means money, money, money, and men, men, men—the men to assume the responsibilities, the money to pay the bills for the provision of all these opportunities. And in particular, as regards the high schools on which this and other universities and professional schools must lean, is not the thing most necessary for the welfare of university education in Texas to secure at all costs good teachers and plenty of them for these schools? Indeed, if the strongest and finest minds are to be prepared for the universities, should not the staff of the public high school be composed of men and women of very extensive culture in several branches of learning and intensive specialization in some one field: a few members of erudition in scholar-



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ship, a few of productive capacity in science, a great number of exceptional teaching ability? The prime obligation of this corps of teachers would be not to scholarship, nor to science, nor to study, nor to the school even, but to the students themselves: and to them not merely as mechanisms that can be taught to think, but to their whole selves as think-ing, feel-ing, will-ing beings. The tutors, not task-masters but fellow-workers; the students, not driven by discipline, but led by enthusiasm; the school, not an interruption in the normal life of the student, but the surest means to its complete realization. In a word, the school would be centered on the students. Their studies and their sports, their work and their play, would be so ordered as to feed and fire their enthusiasms, to stimulate and strengthen intellect in exact thinking and imagination in clear vision, to arouse to action their latent powers of mental acquisitiveness, to develop initiative and again initiative, to enable them to discover themselves and their relations to the great arena of service and opportunity, to train them for the duties of intelligent citizenship in the republic and fit them also to enjoy and perhaps later to advance the larger world of civilization in letters, science, and art.

Another source of unfailing strength to the new university exists ready to hand in the presence of the several hundred college men and women now resident in the city of Houston. While the coming of the new institution and contact with its life will serve to warm their loyalty to their own respective colleges, because of that very interest and devotion they will be quick to interpret sympathetically the aims and ideals of the Rice Institute to the people of its community. They will thus become one of the first of its human assets and one of the foremost of its living sources of strength. To renew and freshen the academic interests of these former colle-



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gians, to stimulate and sustain the intellectual life of the teachers of the city's schools, to tempt business and professional workers to at least occasional excursions into the academic atmosphere surrounding the university, to keep all the members of the Institute in a lively and appreciative sense of familiarity with fields of learning and investigation other than their own, to bring all the people of the city and community into more intimate touch with the academic life of the university, and to carry the influence of that life directly to many homes not represented on the rolls of its undergraduate or postgraduate students, regular series of public lectures, in the form of university extension lectures, will be offered without matriculation fee or other form of admission requirement. These performances are to be authoritative in character, but as non-technical and popular in treatment as their subjects will permit. From domains of literature, history, science, art, philosophy, and politics subjects will be chosen of current interest as well as those of assured and permanent value.<sup>1</sup>

These various sources of strength and support which I have catalogued can hardly be measured quantitatively nor can they with any ease be arranged in series of greater or less, but I have no fear of exaggerating when I say that no

<sup>1</sup>The present plan for university extension lectures at the Institute consists in giving each academic year two regular series of thirty-six lectures each, the first series running through three divisions of twelve lectures each on Mondays, Wednesdays, and Fridays, from the middle of November to the middle of February, and the second series running similarly from the middle of February to the middle of May. All these lectures are delivered in the lecture halls and amphitheaters of the Institute, each afternoon lecture beginning promptly at 4:30 and closing not later than 5:30. In addition to the afternoon lectures occasional Thursday evening lectures are being given. The plan has met with hearty response on the part of the people of Houston, the attendance on the lectures having ranged from some thirty to more than five hundred auditors at a single lecture. By the end of the present academic year (1914-15) an aggregate of rather more than twenty courses of from three to twenty-four lectures each will have been delivered by Messrs. Axson, Blayney, Caldwell, Dumble, Evans, Glascock, Guérard, Hitch, Hughes, Reinke, Tsanoff, Van Sicklen, Watkin, Weber, and Wilson.

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source of strength to the new university will be more permanent in its influence than that of the aspirations of the people themselves for their children; for, from the captain of industry on down to the most modest member of the firm, whether any or all had the advantages of a formal education, all are determined that their children shall have such advantages. And in this determination lies the basis for confident expectation that within a very few years there will be no family of five members in the city of Houston that will not have had one or more representatives on the rolls of the Institute. Furthermore, the time is not far distant when our citizens shall be coming to think of the city's university when writing their wills, and soon in Houston, as in Cambridge and Chicago and San Francisco, a man will leave a stain on his family history if he fail to remember the city's university in his last will and testament.<sup>1</sup> Moreover, the endowing of scholarships and fellowships, the founding of memorial lectureships and professorships, the erecting and endowing

<sup>1</sup> The day of public benefactions by Houston philanthropists has dawned, though still in its earliest morning. The late Mr. George H. Hermann, who shortly before his death handed Mayor Campbell a deed conveying to the city a tract of nearly three hundred acres of land lying just across the road from the Rice Institute, to be used perpetually for the purposes of a public park, has by his will given also to the city a site for a Charity Hospital, together with holdings that will yield an estimated endowment of three million dollars for the latter institution. With engaging frankness Mr. Hermann told me that he had been influenced in making this disposition of his property by the example of William Marsh Rice and the plans of the trustees of the Institute. Thus, in addition to a university for all the people, this city of homes and schools and churches is to have a great public park and a great public hospital. While the city's list of public institutions provided by private donation has been steadily growing, the city has not been waiting indifferently until such provision should have met all its needs. As a matter of very recent history the city itself built during the mayoralty of Mr. H. Baldwin Rice a magnificent municipal auditorium. It was in this auditorium that on the occasion of the formal opening of the Rice Institute there assembled, under the eloquent dedicatory sermon of the Reverend Dr. Charles Frederic Aked and an inspiring service of song and prayer led by the Reverend Dr. Henry van Dyke, an audience of some six thousand souls, including the clergymen and choirs of practically all the churches of the city, "solemnly to link themselves with joy and deep thanksgiving to the consecrating acts by which the new university was publicly dedicated to the high purpose set forth in the Founder's will."

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of name-bearing buildings, the equipping of scientific expeditions, the maintaining of university publications, and a score of other ways opened up by the growth of this institution, will offer both to young and to old many avenues for making and perpetuating family history.

In the history of the public welfare in Texas many organized movements, local, State, and national, for educating public opinion, for elevating public morals, for inspiring public taste, for improving public health, have by their propaganda been assisting in preparing the way for a new university in Texas. Of such organizations Houston has a long and active list whose members are determined that their city shall be great and good and beautiful: an art league, a Carnegie library, a chamber of commerce, a Chautauqua circle, lecture and lyceum bureaus, a number of musical societies, a settlement association, a social service federation, a symphony orchestra, and several women's literary and political clubs and unions. In all their constructive undertakings these organizations have at all times enjoyed generous and hearty support on the part of the several local newspapers, which are maintaining the better traditions of American public prints in instantaneous seeking and supplying of information, in eternal vigilance of editorial comment and criticism, in wireless response to the social feeling and sympathy of the community, in the education of public opinion and the reflection of the public mind. With all these local associations the university would seek to co-operate, in no way would it compete with them, in all possible ways it would seek to avoid all unnecessary duplication of their work. Furthermore, we enter also into the results of years of labor for the common welfare which the people of Texas have been receiving at the hands of many voluntary State associations dedicated to the public service. Among the latter



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there stand out prominently the Conference for Education in Texas, the State Federation of Women's Clubs in Texas, the State Teachers' Association, the Texas Welfare Commission, and the various patriotic associations for perpetuating relationships with the American Revolution, the Republic of Texas, the War between the States, and other periods of State and national history. These women—for the majority of such workers in Texas are women—have been showing enthusiasm, originality, statesmanship in their work; they have also been showing that these qualities are not the only ones which make men and women leaders when a new country is to be settled in the faith and fear of the Lord, for they have been showing that there is also potent and efficient force in gentleness, quietness, and confidence. These workers make their appeal to the university from the intellectual quite as much as from the moral side. The case for their propaganda may be set in famous words of Cromwell: "What liberty and prosperity depend upon are the souls of men and the spirits—which are the men. The mind is the man." And similarly, in a good passage from Mrs. Bosanquet's book, "The Strength of a People," which I should like to quote: "In all considerations of social work and social problems there is one main thing which it is important to remember—that the mind is the man. If we are clear about this great fact, we have an unfailing test to apply to any scheme of social reformation. Does it appeal to men's minds? Not merely to their momentary needs or appetites, or fancies, but to the higher powers of affection, thought, and reasonable action." Ever zealous to understand the aspirations of the popular will, ever zealous to help the people in their quest for enlightenment, ever zealous to lead the people to things above themselves, this university would, in the spirit of a passage from Spinoza, take its "best pains not



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to laugh at the actions of mankind, not to groan over them, not to be angry with them, but to understand them." Testing any programme for better uses of life and leisure by a double criterion: Is it based on an understanding of the ways of men and the needs of humankind? and Does it appeal to the understandings of men? the university would seek, while preserving its own freedom and independence, to assist in the advancement of humanitarian movements in State or Nation or world. This humanitarian aspect of university service, as differentiated from the more strictly scholastic and scientific activities of university life, appearing under newer forms comparatively recently in the so-called university settlements and in the university extension movement, finds its latest phase in co-operative unions for world-wide programmes of scientific investigation on the one hand, and on the other, in the organized movements for improvement of good will and the promotion of peace among the nations. In such united efforts the new institution would participate, for if the university, though on private foundation, is in its first days what Bryce calls a municipal university, Haldane a civic university, Dabney an urban university, in its future days it is to be more than a university of Houston—it is to be a university of Texas, a university of the South, and later, let us hope, in reality as in aspiration, one among the national institutions, reflecting the national mind, one among the universities of the nations, fostering the international mind and spirit in cosmopolitan ways such as the mediæval universities enjoyed before the death of universal language and the divisions in a universal Church.

# THE RICE INSTITUTE

## IX

### THE UNIVERSITY: ITS SPIRIT AND SUMMONS

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**I**N thus endeavoring to write about the meaning of the new institution I have at some length written about its sources in the founder's philanthropy and its history in the public spirit of his friends; of its site, glorious in problems bristling with difficulties and joyous in possibilities of creative effort; of its scope in entering upon a university programme for the advancement of letters, science, and art, by investigation and by instruction, in the individual and in the race of all human kind; of its saints of the past and its seers of the present, pointing by exhortation and example to the highroad along which progress in these high purposes lies; of the shades and towers in which are to be undertaken the daring adventures of its life in deeds of thought and action; of its staff of professors, lecturers, and instructors, in whose personality and work of research and teaching are to be found combined the careers of citizen, scientist, scholar, and schoolmaster; of its students, through whose studies and standards in scholarship and sport constant contributions are to be made to the character, culture, and citizenship of the Republic; of its strength in its freedom from political and ecclesiastical affiliations, in its faith in the progress of the human spirit, in its faculties of science, humanity, and technology, in its self-governed student democracy, in a definite educational policy, and the driving power of ideas and ideals backed by material resources for their realization; of its support in the schools of the city, the county, and the commonwealth, in the college men and women of the community, in the captains of indus-

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try and commerce, in all organized conferences for education, welfare, and uplift, in the resolute determination of the people who have been winning the West, now to win the best for the sons and daughters of the West. My further and final object is an attempted portrayal of the spirit which presides over the university; a presentation, more or less rough, of that breath and finer form of the spirit of learning which lends what is perhaps its chief glory to the life of reflection and gives what may be perhaps its final purpose to the life of action.<sup>1</sup>

Twenty years ago it was specialization. Ten years ago it was specialization. To-day it is specialization still, whether in academic education or in professional training, but specialization on the broadest kind of general foundation. Preparatory to attacking the practical problems of the material world, men are coming to provide themselves with the most complete theoretical training yet devised in the world of mind. On the other hand, pure scientists are continually on the outlook for applications of their discoveries either to the ideal world in which they live or to the real world in which they find their livelihood. As a result the professor's desk is nearer the market-place, closer to the counting-house, within easier call of State and Church than ever before. The university is saying to its men of letters, "You must be leaders of men"; to its men of science, "You must be also men of affairs." The world in its turn is demanding that its engineers be cultivated men, and that its skilled artisans be skilled in the liberal arts as well.

Where theory and practice thus meet there must be rea-

<sup>1</sup> To bring within the time limits of the programme the reading of an address obviously too long to be read in its complete form in public on any occasion, only four sections of this address were actually delivered as a part of the formal exercises of the inauguration and dedication of the Rice Institute, and under the caption, "The Meaning of the New University: Its Source, Its Site, Its Scope, Its Spirit."



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son, and this reason is restoring to learning its unity, in whose spirit we read the strength and the vision of the university. This spirit appears to us under three aspects in those disciplines by which men seek for truth and strive after beauty in letters, in science, in art. Art was originally the handmaid of religion; science, at one time the servant of philosophy, has more lately become its master; letters, in the beginning the playfellow of poets and story-tellers, has grown to be humanity's recording angel. Science has its source in a sense of wonder, art in a sensitiveness to measure and proportion, while literature partakes of the substance of science and the form of art. Science consecrated to the conquest of truth would solve the universe; art would recreate it in the conservation of taste. Science progresses by inquiry, art under inspiration. Intuition dominates the artistic reason, while inference controls the scientific.

In other words, by the spirit of liberal and technical learning I understand that immortal spirit of inquiry or inspiration which has been clearing the pathway of mankind to intellectual and spiritual liberty, to the recognition of law and charm in nature, to the fearless pursuit of truth and the ceaseless worship of beauty. Its history is the history of the progress of the human spirit. Led by an instinct for knowledge, an instinct for harmony, an instinct for law, that spirit has brought the twentieth century its most precious possessions: the love of reason, the love of art, the love of freedom.

There abide these three: the spirit of science, the spirit of letters, the spirit of art, but the man has not arisen to say to us which is the greatest of the three. These are the faces of the spirit of learning, above which there hovers a halo called by the modern philosopher the spirit of service, and by the ancient seer the spirit of wisdom. Knowledge becomes



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power only when it is vitalized by reason; it becomes learning only when it lives in the personality of a man; it becomes wisdom on translation into human conduct. I know as well as you that the spirits of which I speak are ghosts who will themselves not speak until they have drunk blood. We propose to give them the blood of our hearts in the service of the new institution.<sup>1</sup>

Ladies and Gentlemen of Houston: At your gates there have arisen for all time the walls and towers and men of the Rice Institute, whose life is to be an integral part of your life, whose service is to be local in the best sense, whose significance, let us hope, may be State-wide, and even national, in its reach, on a foundation builded for Houston, for Texas, the South, and the Nation. A long avenue doubly lined with trees, at one end the captains of industry and commerce in factory and counting-house, at the other a college community in academic shades dedicated to liberal and technical learning, the happy homes of Houston lying in between! A university devoted to the advancement of literature, science, and art; to the promotion of letters as the record of the achievements of the human spirit; to the promotion of science as the revealer of the laws and the conqueror of the forces of nature; to the promotion of art as the sunshine and gilding of life. A society of scholars in whose company your children, and your children's children and their children, may spend formative years of their aspiring youth under the cultivating influences of humane letters and pure science, pursuing culture with forward-looking minds and far-seeing spirit before undertaking in the Institute's professional schools special or technical training for the more sober business of life. A temple of wisdom and sanctuary

<sup>1</sup> It is to Professor von Wilamowitz-Moellendorff, I believe, that I owe this figure of speech.

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of learning within whose courts and cloisters you yourselves may find an occasional retreat in which to think more quietly and more deeply; perhaps to worship more devoutly and more intelligently; certainly to contemplate the deeper things of patriotism and politics, of reverence and religion, of peace and progress; and mayhap to discover, if never before, that you may belong to the great community through which the Eternal has worked for ages, that you may have a share in the high privileges and solemn duties which belong to every member of that great community, that in the continuity of human history you may march forward, if you will, in a great pageant that moves from the living past through the living present into the living future.

Not long ago I stood on a great rock—a great living rock—within eyeshot of the birthplace of modern civilization. Upon it rose those incomparable ruins, mighty as the mind that conceived them, majestic as the mountains and sea that call to them. In their midst the gods of the Greeks still live. And of all those gods it was to her who typifies science that the Parthenon was dedicated; to that great goddess who sprang full-armed from the head of Zeus at the touch of fire and toil, to conquer the deep himself.<sup>1</sup> It is no long flight of fancy from the Parthenon above the fields of Hellas to these towers that rise on the plains of Texas. Under her ancient promise, may Pallas Athena preside over these academic groves and guide men by the spirit of science and the spirit of art and the spirit of service in their search for the great, and the lovely, and the new, for solutions of the universe in terms of the good, the beautiful, and the true!

And I recalled the words of the wise man of another chosen people:

<sup>1</sup> The idea and experience of the first part of this paragraph I am obliged to share with Professor Sir Ronald Ross, but I am unable to supply the appropriate citation.



The  
Trustees and Faculty  
of the  
Carnegie Institute  
of  
Technology

— extend fraternal greetings and congratulations  
to the

Rice Institute

upon the occasion of its formal dedication to the cause  
of technical education.

On their behalf, I wish to emphasize our belief  
in your outlook for distinguished service in the—  
southern states, and to tender you our co-operation  
and heartiest wishes for a long and honored career  
of usefulness.

*Wm. H. Hamelby* B.S., LL.D. Director  
Pittsburgh, Pennsylvania.  
October fifth, Nineteen Hundred and Twelve.



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"Except the Lord doth build the house, they labor in vain that build it."

"I prayed, and understanding was given me; I called upon God, and the spirit of wisdom came unto me; I preferred her above sceptres and thrones, for she is unto men a treasure that never faileth."

"For wisdom is a breath of the power of God, and a pure effluence flowing from the glory of the Almighty. She is the reflection of the everlasting light, the unspotted mirror of the power of God and the image of his goodness. And in all ages, entering into holy souls, she maketh them friends of God, and prophets."

*Wisdom hath builded her house,  
She hath hewn out her seven pillars;  
She hath mingled her wine;  
She hath also furnished her table,  
She hath sent forth her maidens; she crieth  
Upon the highest places of the city,*

*"Whoso is simple, let him turn in hither";  
As for him that is void of understanding, she saith to him,  
"Come, eat ye of my bread,  
And drink of the wine which I have mingled,  
And walk in the way of understanding.*

*"Blessed is the man that heareth me,  
Watching daily at my gates,  
Waiting at the posts of my doors;  
For whoso findeth me findeth life,  
And shall obtain favor of the Lord."*<sup>1</sup>

EDGAR ODELL LOVETT.

<sup>1</sup> These several passages, from the Book of Proverbs and the Book of Wisdom, in slightly abbreviated form have been distributed in the carving on the caps of the columns which support the arches in the cloisters of the North Wing of the first Residential Hall for men.

# THE RICE INSTITUTE

## The One Hundredth Psalm

1. All peo - ple that on earth do dwell, Sing  
2. Know that the Lord is God in - deed; With -

to the Lord with cheer-ful voice: Him serve with mirth, His  
out our aid He did us make: We are His flock, He

praise\_ forth-tell, Come ye be - fore Him\_ and re - joice.  
doth\_ us feed, And for His sheep He\_ doth us take.

3. O enter then His gates with praise,  
Approach with joy His courts unto:  
Praise, laud and bless His name always,  
For it is seemly so to do.

4. For why? the Lord our God is good,  
His mercy is forever sure;  
His truth at all times firmly stood,  
And shall from age to age endure.

## BOOK OF THE OPENING

### BENEDICTION

REV. CHARLES FREDERIC AKED: Thou who art the Giver of every good and perfect gift, who dost inspire every lofty thought, from whom all skill and science flow, Thou who hast been our help in ages past, who art our hope for years to come, crown, we beseech Thee, the labors of Thy servants with Thy richest blessing. May the love of the Eternal Father, the grace of the Lord Jesus, the fellowship of the Holy Spirit, abide with us and with our loved ones and with all good men and women everywhere forevermore! Amen.

## LUNCHEON AT THE INSTITUTE COMMONS —CONGRATULATORY GREETINGS

PRESIDENT LOVETT: *Ladies and Gentlemen*—The trustees of the Rice Institute honored themselves and the new university by addressing to the universities and learned societies of the world invitations to participate in this our first academic festival. Many of these institutions are represented here to-day in the person of their president, professors, or distinguished alumni. Hundreds of others have sent us cordial addresses of congratulation, and in addition to these formal messages many telegrams and cablegrams have been received this morning. In number and significance these responses have far exceeded our best expectations of courtesy and good will. To receive all these communications with proper ceremonies it would be literally necessary for this academic assembly to sit for at least another three days. In the midst of such an embarrassment of riches we have been obliged to restrict this part of our program to a few responses from representatives of the representatives. Accordingly, we have asked one of our distinguished guests from abroad to speak for the foreign and American learned societies that have sent us greetings on this occasion, and another eminent guest from Europe to speak for the foreign universities, and for the universities of America we shall call upon a delegate from one of the oldest endowed institutions of the East, the representative of one of the earliest State universities in the South, the president of one of the newer endowed universities of the North, and the president of one of the younger State universities of the West.



To The President and Trustees

OF

THE RICE INSTITUTE

of Liberal and Technical Learning

THE PRESIDENT, COUNCIL AND GENERAL BODY OF  
FELLOWS OF

THE BRITISH ACADEMY

*Send Cordial Greetings on the occasion of the formal Opening  
of the new University*

**T**he British Academy in the spirit of true fellowship desires to participate in the inaugural Celebration, and to join with those assembled from far and near in heartiest good wishes for the successful carrying out of the exalted ideals which prompted their large-hearted citizen, WILLIAM MARSH RICE, to endow and to dedicate to the Advancement of Letters, Science and Art, the nobly equipped University Institute—a fitting Memorial for generations to come of public-spirited munificence.

The Council of the British Academy regret that, owing to the time of the year, a representative of their Body is not able to attend the Celebration; but the Academy's Congratulations on the present great occasion are none the less sincere.

May the RICE INSTITUTE realize the highest hopes of its Founder and of all associated in the good work now to be inaugurated by the formal Opening of the new University!

Signed,

*A. W. Ward*

President of the British Academy.

*J. G. Thompson*

Secretary of the British Academy.

THE BRITISH ACADEMY,

BURLINGTON HOUSE, LONDON,

September 20th, 1912.



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On the part of foreign and American learned societies, Professor Sir William Ramsay, of the University of London.

For the foreign universities, Professor Emile Borel, of the University of Paris.

On behalf of the American institutions of the East, Dean William Francis Magie, of Princeton University.

For the universities of the South, Professor William Holding Echols, of the University of Virginia.

On behalf of the universities of the North, President Harry Pratt Judson, of the University of Chicago.

For the American universities of the West, President Sidney Edward Mezes, of the University of Texas.

I have great pleasure in calling on these gentlemen, who have very kindly consented to address you, according to the above program.

PROFESSOR SIR WILLIAM RAMSAY: *Mr. President, Ladies and Gentlemen*—We have witnessed within the last couple of days a birth, and there is one class of persons in this world which represents and is attendant upon births all over the world. This person is what is called in French the “sage-femme.” She is represented here by the wise men who have joined in conveying congratulations to this University on the occasion of its birth.

Personally I am the conveyor of congratulations from the University of London, from University College, London, and from the American Philosophical Society, and in the name of these three institutions I am here to wish a very long life and great prosperity to this newly born child.

I have in my hand a number of cablegrams from learned societies in every part of the world. From Kief, Moscow, and St. Petersburg in Russia, from Berlin and Göttingen in

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Germany, from Bucharest in Rumania, from Copenhagen in Denmark, from Christiania in Norway, from Stockholm in Sweden, from Lemberg in Poland, from Rome in Italy, and from many other points of the compass congratulatory telegraphic messages have been sent. Besides these telegraphic good wishes which have been received this morning, there have been received from practically every literary and scientific center of the world formal addresses of felicitation and good will.

And so I am here to say that the fame of this institution has been spread broadcast to the uttermost parts of the world, and I am here to convey in their names—the names of the institutions and colleges which I have mentioned—to this newly born institution, their most hearty congratulations and their wishes for a long and successful life.

PROFESSOR EMILE BOREL: *Mr. President, Ladies and Gentlemen*—I have been commissioned to bring to the inauguration of your great and beautiful Institute the best wishes of the University of Paris and those of the Ecole Polytechnique. Besides the official messages of my mission, I desire to express to you also my warm personal appreciation of your cordial hospitality, which we can never forget, and also my great admiration for the university which you are founding. On my return to France I shall often recall the beautiful architecture of your Administration Building and the harmonious aspect of this large hall, with its decorations of flags. I am deeply touched to find, at so great a distance from our ancient Europe, a desire for work and for service animating your students altogether similar to the desire which animates ours in our faculties, in our schools. I am conscious here of the fraternity which unites men, in spite of the seas, in the same objects of research, of development, of progress.



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Your organization, so eminently practical, your plans of work, so thoroughly studied, give promise of brilliant results. You have chosen some eminent professors. It is with complete confidence in the future that in the name of the University of Paris, in the name of the Ecole Polytechnique, and in my own name, I drink to your future success.

DEAN WILLIAM F. MAGIE: *Mr. President, Ladies and Gentlemen*—It is with feelings of pride and pleasure that I appear before you to-day as the representative of the Eastern Universities of the United States. In their name I bring to President Lovett and to the trustees of the Rice Institute the cordial congratulations of these institutions. They all join in welcoming to the number of the educational influences by which science and art are to be advanced in our country, an institution which takes its place among them with such flattering prospects of a great future.

Particularly, however, I appear to speak for Princeton University, in which President Lovett was for many years one of our most honored and best beloved colleagues. I shall not read the formal address with which I was furnished by the authorities of Princeton University, but I shall give expression in a more informal way to that which I believe no other institution can bring in so full a measure, the cordial and personal good wishes and congratulations of your president's intimate friends. We all remember him with affection. We all felt the deepest regrets when he left us, and we now can only express to him our sincere good wishes for the greatest possible success in his new and distinguished position.

Our president, who signed the formal letter of congratulation, of course also sent his warmest personal congratulations. I shall not attempt to enumerate at this time those of

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President Lovett's Princeton friends who wished to be personally and by name joined with our president in these congratulations, but I am sure that you will be pleased to hear that I bring to President Lovett and to the Rice Institute the congratulations of a woman who is known and honored throughout the land—Mrs. Grover Cleveland.

I would like to say just a word or two besides these words of congratulation, and explain why I wish to congratulate so particularly your president and your institution.

I will first say a word on the subject which has just been referred to in the eloquent address of the representative of the University of Paris, when he spoke about the beautiful architecture of the buildings which are going up on this great campus. I feel that on this occasion it would not be right if we did not give full and hearty recognition—and I am glad to say that this has already been done in better words than I could possibly use—to the wonderful artistic success which has been attained already, and which you can, I think, expect to be attained in the future development of the institution under the guidance of your supervising architect, Mr. Cram. I had the peculiar pleasure of going about with him while he inspected the buildings. He saw them in their completed form for the first time, and I never appreciated so well as I now do, after seeing his delight in his own achievements, what is meant by the words, "And God saw everything that He had made, and behold, it was very good." I congratulate you most heartily on having Mr. Cram as the supervising architect of this Institute.

Then again, in line with what was presented in the speech of the Bishop of Tennessee and in the address of your president, I congratulate you upon the declared devotion of this Institute to science, literature, and art, in their pure form, as preliminary to the development of the technical sciences

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and arts which contribute so much to the comfort and pleasure of the world. I do not feel that, after what was said this morning, I need repeat the reasons why pure science is particularly important in an institution which is to be devoted partly to the solution of technical problems. All the great inventions grew out of scientific discoveries. I could give you example after example, and every other scientific man here could do the same, but I cannot stop for it. The pure sciences furnish the ideas which are developed in practice. They give the student the necessary theoretical foundation for his practice and make it possible for him to be more than a mere drudge in the technical applications of the sciences. Chesterton says, somewhere, that if a machine stops because a nut comes off, or a tire is punctured, an ordinary mechanic can put it in order; but if some real trouble happens and the machine really breaks down, it is far more likely that it will be put in order again, not by a mechanic, but by some white-haired professor who seems to have very little practical knowledge, but who has been trained by his theoretical studies to get to the bottom of the trouble and so to remedy it. Besides all this, the study of pure science stimulates research, and it is to scientific research that we owe the most striking development of the modern mind, and it is to research carried on by men trained in such institutions as this that we are to look for the advancement of knowledge in the future. I congratulate this institution that, in spite of the temptation to found and develop a purely technical school, the other course has been taken and an institution has been established in which the technical arts and sciences will spring, as they ought to do, from a thorough foundation in theory; and I again extend to the president our congratulations on the purposes and noble aims of this Institute, and our best wishes that these will develop into full fruition.



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PROFESSOR WILLIAM HOLDING ECHOLS: *The Trustees of Rice Institute, Mr. President, my Colleagues, Ladies and Gentlemen present*—It is somewhat fitting that he who brings Virginia's greetings to you should be a Southerner, and, as it happens, in a sense a Texan, since he was born in San Antonio.

I bear a message from the oldest Southern State to the youngest and most powerful of these States.

In old Virginia on the east, in younger Texas on the west, and in all that land which lies between them without a break, live the most homogeneous people of one blood in all these United States.

It is somewhat difficult at times for others to understand why we Southern people love so intensely the soil into which our blood has gone and out of which our blood has come, the deep affection and the swift understanding which we have in one another, the mutual dependence and trust with which we lean upon each other.

For forty years the energy of the South has been absorbed in striving to satisfy the craving of the primitive belly-need of a wrecked people.

During that period there was scant time among her sons for what is called education, there were small means for them for what is called culture.

Let there be no mistake when one says the South is uneducated, lest by that one means the South is ignorant. This Southern generation knows that it has been hewing wood, drawing water; that it has made its bricks without the straw, but steadfastly, quietly reconstructing, rehabilitating *ab initio*.

The South knows, and she has known it all along, that her people are coming into their own inheritance again. A suspicion of this is even now felt beyond her borders.



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The South has now passed through those dark days of feeding mouths and clothing bodies after devastation. She has not time, even as yet, for the gentler things of literature, music, and art. But she has come to the day when no longer shall she bear the transit, run the level, and drag the chain of an alien industry in the exploitation of her own resources.

It is of intensely human interest to reflect that, in one generation after the bitterest and most fratricidal war the world has known, much of the means for the highest rehabilitation of her people has come from the personal kindness and friendly generosity of a one-time foe.

Your splendid endowment has come from one initially across the line. Also to Virginia has come from a similar source, for a similar purpose, more than a million of dollars; and so it was with Vanderbilt University, the Peabody funds, and many others. He who writes the history of this people cannot ignore these deep-rooting influences.

Here to Texas, the youngest of these States, has come this golden opportunity, this great responsibility and sacred trust. It is within your power to respond to the great and crying need of a people near and dear to you. Yours is the exalted privilege and sacred duty to breed for that people leaders of men, leaders of industry, and leaders of thought; men trained to depend upon the solidity of scientific truth, with minds so philosophically trained that they may organize the present and with far-reaching insight design the future; men so prepared that they may enter the lists to claim and hold for the South her people's share in their birthright of her natural resources.

The South is potentially the richest part of the United States, and we are the legitimate heirs of her treasures.

It is only through the minds of men splendidly trained in technology and the laboratory, transmitting energy for the

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transmutation of the raw products of mine and soil through furnace and mill into the finished detail, that we can hope to hold that which has been bequeathed to us.

Yours is the function to generate these men. Smaller institutions can supply the rank and file, but yours is the opportunity, the ability, and the solemn duty to carry forward this high mission of making high men, keeping ever in mind that it is the knowledge of the truth that makes men free.

There can be no need to fear for the coming of literature, music, and art to a sensitive and imaginative people. These things will come as naturally in their proper order as does the rising sun, after the sterner diet of which I speak. Food and clothing, then possession and power—after them, as always, the Muses come.

To you gentlemen of the Board of Trustees of the Rice Institute the University of Virginia bids me present her heartfelt congratulations upon the good fortune of your opportunity, upon the far-sighted largeness of your design, and upon that splendid courage with which you announce to those that are to come to you that there shall be no upper limit to intellectual attainment save that which God has placed upon their personalities. We assembled here could not wish more for the welfare of your progress and the success of your design than to hope that some of the genius of that great master of science, he who was to have been with us in body to-day, and whose spirit, we know, must ever be present where men gather in search of truth, may descend upon this place and energize it into creative thought.

Virginia congratulates you upon your choice of the man to carry forward your design and lead your hope to its fulfillment. She is proud that he is one of her own dear sons.

And now to you, Mr. President, from your Alma Mater, I pass the burning cross, and with it Virginia's congratula-

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tions upon your high purpose. She looks with motherly sympathy upon your endeavor, and will follow with anxious, loving eyes the development of your plans. She bids you courage, honest work for the day, honest hope for the morrow, and prayerfully God-speed.

PRESIDENT HARRY PRATT JUDSON: *Mr. President, Ladies and Gentlemen*—It is my privilege to bring from the University of Chicago warm congratulations to you on this very auspicious occasion. I bring them from the faculty and the trustees, who know what it is to create a new institution, and who have confidence in what you are about to do here.

I come from a city which, I think, has special reasons to have a great interest in all the Southland. You will pardon me, Mr. President, when I recall one thing you said last night at the opening of the exercises, if I can remember back so long as that, because the opening and the closing of those exercises were very far apart, but I think you said you had forgotten every story you ever heard. I seem also to have forgotten every story I ever heard, except some of the stories about Chicago, and the particular one related last night I am not going to repeat. On consulting my note-book I find that my record for that particular story is 1746. Another one has a record of something like 762. The record of a third one up to the present time is 2107; that is to say, I have heard it repeated that number of times since I began to count, and for this reason, Mr. President, I will not tell any now. I mention this record, however, merely by way of indicating that I think many people are interested in Chicago. The invitation that we have received to your festival indicates at least that we are not forgotten in the South, and in turn I beg to assure you that we do not forget our friends. It has been said that a visitor in Boston is asked,



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What do you know? In New York he is asked, How much have you? In Philadelphia, Who was your grandfather? But if I may judge, Mr. President, by the very lavish and extensive hospitality that we have enjoyed in these few days here, it appears that a newcomer in Houston is asked, What can we do for you? And it is because of this spirit that I desire especially to congratulate the City of Houston on this great enterprise. The coming of this institution, so splendidly and wisely erected, we believe will be a great benefit not only to your city but to your entire community.

This occasion takes me back twenty years, to the time when we were founding in Chicago an institution very well provided for at that day. And at that time the heads of our city and State institutions were saying that perhaps the new university would prove to be a dangerous rival. It was not many years, however, before they found that nothing better than the new university could have happened for the spreading of the university idea and its benefits to education. Since that time the other city and State institutions have gone forward by leaps and bounds, in students, in prestige, and in usefulness. Precisely the same way the Rice Institute will prove to be the very best of assets to the colleges and universities and all enterprises of public education in your section.

We congratulate you again, Mr. President, on the splendid and large views with which your institution starts. In the old days the teacher taught what he had been taught, and was satisfied to stop there. In these days a teacher is not alive unless he is on the firing-line of science, unless he has knowledge of the most recent achievements and is pressing those still further in all directions. And we rejoice that you are aiming to devote a large part of your resources to

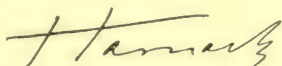


## Kaiser-Wilhelm-Gesellschaft zur Förderung der Wissenschaften.

Berlin NW7, den 4. September 1912  
Königliche Bibliothek.  
Telephon: Amt Zentrum Nr. 11542.

*Ihrer Magnifizenz*

*spreche ich Namens der Kaiser-Wilhelm-Gesellschaft für die freundliche Einladung zur Teilnahme an der Eröffnungsfeier des R i c e I n s t i t u t s den verbindlichsten Dank aus. Zu ihrem Bedauern ist jedoch die Gesellschaft nicht in der Lage, zu den Festlichkeiten, denen sie einen frohen und glänzenden Verlauf wünscht, einen Vertreter zu entsenden.*



*Präsident der Kaiser-Wilhelm-Gesellschaft  
zur Förderung der Wissenschaften.*

*Seiner Magnifizenz  
dem Präsidenten des  
R i c e I n s t i t u t s  
Herrn Edgar Odell Lovett  
in*

*H o u s t o n .*



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research in scientific knowledge. The learned chief justice this morning told of some of the things which science has done in our day. There are few things more fascinating. The world has a very great deal to thank science for. For example, take medicine alone. Just think of the communities which a very few years ago were terror-stricken and harassed by epidemics of various malignant diseases. To-day such epidemics are practically unknown. Only a few years ago malaria and yellow fever were ills to be dreaded. To-day, thanks to applied science in medicine, we have found adequate remedies for each of these scourges.

Another cause for congratulation, Mr. President, will appear in what such an institution as yours is going to mean to the community in which it lives. Your great institution is going to be an evangelic light to your entire community, for it will be the means of advancing, among all people of all kinds, the scientific attitude toward life. The future of this university will depend not alone on your splendid and magnificent hospitality, not alone on these beautiful and majestic buildings, not alone on your large programs for study and research, but quite as much will the real fruitage of your institution depend on the men who work here. Its future will be made by the men who carry on in these halls the researches of the scholar; by the men who will lead and guide the university to success; by the men, the professional men, who will go out of it—the lawyers, the engineers, the architects, and the plain, solid men of business who make our country; the men who will put into the life of the Republic the knowledge and the training which they will derive from the results of your venture. On so auspicious a beginning and on so bright a prospect I congratulate you most warmly.

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PRESIDENT SIDNEY EDWARD MEZES: *Mr. President, Ladies and Gentlemen*—From the first announcement of William Marsh Rice's magnificent bequest we have looked forward with lively anticipation to this day. We have watched with growing interest the development of the trustees' plans; we rejoiced greatly when we learned that they were resolved to risk the charge of tardiness rather than build heedlessly; we especially rejoiced when we saw chosen to the office of president one of America's ablest and best trained scholars.

In the new president we have found not merely an able and aspiring man, not merely a man of noble conceptions and prophetic visions, but a man so genial of heart, so true in his sympathies, so inspiringly hopeful, that he has carried light wherever he has gone, and conviction also that the institution whose course he guides will bring an influence that deserves and will find a congenial home in Texas.

In some States of the Union the several colleges and universities have not dwelt together in the unity commended of the Psalmist. The colleges, for the most part on private foundations, have often distrusted one another and united in distrust of the State university. This distrust has given rise to conduct at times organized into sustained campaigns, intent on the purpose of mutual harm, and only too successful in attaining that unworthy end. Few pages in the educational history of our country are so disheartening to high endeavor. But from such misguided enterprise Texas has most fortunately been unusually free. Across her broad expanses the winds of freedom and tolerance have swept, scattering the fogs of prejudice and self-seeking as from time to time they formed; and to-day, perhaps as nowhere in America, there prevails practically throughout our State a spirit of the fullest friendliness and co-operation among



## BOOK OF THE OPENING

colleges and universities, endowed and State-sustained. That the new Rice Institute will strike a note of discord we have no fear. Why should we? Why should not a fresh worker be welcomed into the vineyard, when his aim is our own, with a slant of fortunate difference; when the field is white to the harvest, and the laborers are few? Seeing that barely one out of every ten high-school graduates takes any higher education whatever; that in Texas only one out of twenty of our boys and girls goes to college, whereas in California, for example, the proportion is one in eight; how can we do otherwise than rejoice at the founding of a new agency to help alter these distressing figures? Facing together some of the most vital problems before State and Nation, shall we not be glad that the new institution is now among us, blessed with the means to render great service?

And now, President Lovett and members of the Board of Trustees, we welcome the Rice Institute into the brotherhood of Texas colleges and universities; we welcome you formally and with all our hearts. You will play a splendid part in the upbuilding of Texas; you will help train our youth; you will cherish learning; you will foster research; your achievements and example will stir us to renewed endeavor. In the noble setting of spacious grounds; with buildings planned by a great artist; with a faculty chosen from all the world; with the stimulus of a rapidly growing city about you, to all human seeing the future holds for you a glorious destiny. One and all we unite to say:

*Esto perpetua!*

PRESIDENT LOVETT: *Ladies and Gentlemen*—For the trustees and faculty of the Rice Institute I thank most sincerely these gentlemen and all the institutions they represent for their cordial greetings and for the warm welcome with

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which they receive us into their fellowship and that of the world of learning. I can find no words in which adequately to say to them what their presence means to us at this time. In return for their great kindness we can only offer them the place in our history which they have made for themselves. And most cordially do we invite them one and all to come back. For their coming we thank God, and from their messages we take courage.

RELIGIOUS SERVICES  
SUNDAY OCTOBER THIRTEEN  
CITY AUDITORIUM





# Hymn—O God, our help in ages past

C. M.

Dr. Croft

Sir Arthur S. Sullivan, Mus. Doc.

*Voices in harmony*

The musical score is written for voices in harmony, consisting of two staves: a treble staff and a bass staff. The melody is in G major, indicated by one sharp (F#) on the treble staff. The time signature is common time (C). The lyrics are written below the staves, with the first line of music corresponding to the first line of lyrics and the second line of music corresponding to the second line of lyrics. The score ends with a double bar line and repeat dots.

1. O God, our help in a - ges past, Our hope for years to come,  
Our shel-ter from the storm-y blast And our e - ter-nal home.

2. Under the shadow of Thy throne  
Thy saints have dwelt secure;  
Sufficient is Thine arm alone,  
And our defense is sure.
3. Before the hills in order stood,  
Or earth received her frame,  
From everlasting Thou art God,  
To endless years the same.
4. A thousand ages in Thy sight  
Are like an evening gone;  
Short as the watch that ends the night  
Before the rising sun.
5. Time, like an everrolling stream,  
Bears all its sons away;  
They fly, forgotten as a dream  
Dies at the opening day.
6. O God, our help in ages past,  
Our hope for years to come,  
Be Thou our guide while life shall last,  
And our eternal home.

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## INVOCATION

PRESIDENT EDGAR ODELL LOVETT

Almighty and most merciful Father, we have erred, and strayed from Thy ways like lost sheep. We have followed too much the devices and desires of our own hearts. We have offended against Thy holy laws. We have left undone those things which we ought to have done; And we have done those things which we ought not to have done; And there is no health in us. But Thou, O Lord, have mercy upon us, miserable offenders. Spare Thou those, O God, who confess their faults. Restore Thou those who are penitent; According to Thy promises declared unto mankind in Christ Jesus our Lord. And grant, O most merciful Father, for His sake, That we may hereafter live a godly, righteous, and sober life, To the glory of Thy holy Name.

Our Father, who art in heaven, Hallowed be Thy Name. Thy kingdom come, Thy will be done on earth, As it is in heaven. Give us this day our daily bread. And forgive us our trespasses, As we forgive those who trespass against us. And lead us not into temptation; But deliver us from evil; For Thine is the kingdom, and the power, and the glory, for ever and ever. Amen.

BOOK OF THE OPENING  
Hymn—O God of Bethel

C.M.  
Sir John Stainer Mus. Doc.

1. O God of Bethel, by Whose hand Thy peo-ple still are fed;  
Who thro' this wea-ry pil-grim - age Hast all our fathers led. Amen.

2. Our vows, our prayers, we now present  
Before Thy throne of grace:  
God of our fathers, be the God  
Of their succeeding race.
3. Through each perplexing path of life  
Our wandering footsteps guide;  
Give us each day our daily bread,  
And raiment fit provide.
4. Oh, spread Thy sheltering wings around,  
Till all our wanderings cease,  
And at our Father's loved abode  
Our souls arrive in peace!
5. Such blessings from Thy gracious hand  
Our humble prayers implore;  
And Thou shalt be our chosen God,  
And portion evermore.

P. Doddridge, 1736

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## SCRIPTURE READING AND PRAYER

DR. HENRY VAN DYKE

1. Though I speak with the tongues of men and of angels, and have not charity, I am become as sounding brass or a tinkling cymbal.

2. And though I have the gift of prophecy, and understand all mysteries, and all knowledge; and though I have all faith, so that I could remove mountains, and have not charity, I am nothing.

3. And though I bestow all my goods to feed the poor, and though I give my body to be burned, and have not charity, it profiteth me nothing.

4. Charity suffereth long, and is kind; charity envieth not; charity vaunteth not itself, is not puffed up,

5. Doth not behave itself unseemly, seeketh not her own, is not easily provoked, thinketh no evil;

6. Rejoiceth not in iniquity, but rejoiceth in the truth;

7. Beareth all things, believeth all things, hopeth all things, endureth all things.

8. Charity never faileth: but whether there be prophecies, they shall fail; whether there be tongues, they shall cease; whether there be knowledge, it shall vanish away.

9. For we know in part, and we prophesy in part.

10. But when that which is perfect is come, then that which is in part shall be done away.

11. When I was a child, I spake as a child, I understood as a child, I thought as a child: but when I became a man, I put away childish things.



## BOOK OF THE OPENING

12. For now we see through a glass, darkly; but then face to face: now I know in part; but then shall I know even as also I am known.

13. And now abideth faith, hope, charity, these three; but the greatest of these is charity.

*1 Corinthians, xiii.*

Great Lord of Life! Creator of all things seen and unseen! We rise up with an awful joy to worship Thee in spirit and in truth. Cast down our earthly pride; shame from Thy presence our sinful cares and low desires; breathe with Thy blest spirit on the sacred fires of our hearts; and may we stand before Thee face to face, as heirs of glorious hopes and sons of the holy God. While our fathers serve Thee in other worlds of Thy love, amid spirits of more heavenly race, we would seek Thee with a lowly faith, and trust our lot and times to Thee. Thou art too near for our eye to see Thee, too far for our outstretched mind to reach; yet is Thy presence ever in the midst; and along the pathway of our life, and the wanderings of our hearts, and the transit of our days, we are alone unchangeably with Thee.

Almighty God, whose kingdom is everlasting and power infinite; Have mercy upon this whole land; and so rule the hearts of Thy servants the President of the United States, the Governor of this State, the Mayor of this City, and all others in authority, that they, knowing whose ministers they are, may above all things seek Thy honor and glory; and that we and all the people, duly considering whose authority they bear, may faithfully and obediently honor them, in Thee and for Thee, according to Thy blessed Word and ordinance; through Jesus Christ our Lord, who with Thee and the Holy Ghost liveth and reigneth ever, one God, world without end.

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O Thou Lord of all, who didst send Thy Word to speak in the prophets and live in Thy Son; and appoint Thy Church to be witness of divine things in all the world; revive the purity and deepen the power of its testimony; and through the din of earthly interests and the storm of human passions, let it make the still, small voice of Thy Spirit keenly felt. Nearer and nearer may Thy kingdom come from age to age; meeting the face of the young as a rising dawn, and brightening the song of the old, "Lord, now lettest Thou Thy servant depart in peace." Already let its light abash our guilty negligence, and touch with hope each secret sorrow of the earth. By the cleansing spirit of Thy Son, make this world a fitting forecourt to that sanctuary not made with hands, where our life is hid with Christ in God.

O Father of light, and Source of knowledge, who canst be taught of none, and whose inspiration hath given us understanding! O Thou who art love and dwellest in love! teach us to be followers of Thee as Thy dear children. We praise Thee for all thy wonderful works to the sons and daughters of men. The work of our hands, establish Thou it upon us, we pray Thee. Thy rich and abiding blessings grant to the new university of liberal and technical learning whose interests have assembled us in this service of praise and thanksgiving. We praise Thee for the founder's great gift to the people. We praise Thee for the great work his trustees have inaugurated. Give wisdom and sound judgment to the president and all those associated with him in shaping the policy and directing the destiny of this university. May constantly increasing streams of men go forth from these halls of learning, trained in the highest degree, equipped in the largest sense for positions of trust in the public service, for posts of leadership in the world's affairs.

## BOOK OF THE OPENING

May all who pursue letters and science and art at the Rice Institute, by these disciplines as allies of religion, be led to Thee who art the highest and yet the nearest, the holiest and yet the One who loves us best.

Almighty God, who hast given us grace at this time with one accord to make our common supplications unto Thee; and dost promise that when two or three are gathered together in Thy Name thou wilt grant their requests; Fulfil now, O Lord, the desire and petition of Thy servants, as may be most expedient for them; granting us in this world knowledge of Thy truth, and in the world to come life everlasting. Amen.

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## Hymn-A Mighty Fortress is our God

Martin Luther

{ A might-y fort-ress is our God, A sure de-fence and  
He helps us free from ev-'ry need Which hath us now o'er-  
weap - on; The old an-gry foe Now means us dead-ly woe;  
tak en.)  
Deep guile and great might Are his dread arms in fight, On  
earth is not His e - - - qual. A - men.

2 In our own strength can naught be done— 3. And were the world with devils filled,  
Our loss were soon effected; All waiting to devour us;  
There fights for us the Proper One, We'll still succeed, so God hath willed,—  
By God himself elected. They cannot overpower us:  
Ask you who frees us? The Prince of this world  
It is Christ Jesus— To hell shall be hurled;  
The Lord Sabaoth, He seeks to alarm,  
There is no other God; But shall do us no harm;  
He'll hold the field of battle. The smallest word can fell Him.

4. The Word they still must let remain,  
And for that have no merit;  
For He is with us on the plain,  
By His good gifts and Spirit:  
Destroy they our life,  
Goods, fame, child and wife?  
Let all pass amain,  
They still no conquest gain,  
For ours is still the kingdom.

Martin Luther 1529  
Tr. Joel Swartz 1879



## BOOK OF THE OPENING

### SERMON

REV. CHARLES FREDERIC AKED

### WAITING FOR THE SONS OF GOD

"For the earnest expectation of the creation waiteth for the revealing of the sons of God."—*Romans viii, 19.*

"For all creation, gazing eagerly as if with outstretched neck, is waiting and longing to see the manifestation of the sons of God."—*New Testament in Modern Speech.*

THIS morning we will make no attempt to reach the height of Paul's great argument. We will content ourselves with immediate, practical applications of his profound thought. His view, in a sentence, is that all animate and inanimate creation protests against the suffering which has been imposed upon it; that the universal longing for a better state and a better time is a prophecy of distant glory; that these sufferings are but as the birth-pangs of new and gladder worlds; that the universe was made subject to change, in hope that no evil thing may endure, that even Winter may change to Spring, and that love may conquer at the last. And the essential condition of the realization of this hope is the appearance of the sons of God—the appearance, that is to say, of good men and women. For this the creation, gazing eagerly as if with outstretched neck, waits and longs. The good time coming—which is always coming but never come—will be here: the prophecies will be accomplished fact; the radiant dreams of poets will be the plain prose of life; the creation itself will be delivered from the bondage of corruption—in proportion as the race produces men and women who are manifestly the children of God. What hinders the coming of God's kingdom amongst men? How hold we the heaven from earth away? What wait we for? We are waiting for more men and women heroic and

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holy, generous and good. We are waiting for the sons of God.

This is the energy of all moral effort—a steady supply of good men and good women. This is the steam which makes the engine move. This is the stored up potency of electricity which lights up a city or drives the vast machinery of modern life. Do great men produce great ages? Or do great ages produce great men? These are questions which our Literary and Debating Societies have been arguing for a hundred years. Emerson would tell you that an institution is only the lengthened shadow of a man: Protestantism, of Martin Luther; Quakerism, of George Fox; Abolitionism, of Thomas Clarkson; Methodism, of John Wesley. All history resolves itself quite easily into the life stories of a few stout and earnest persons.

To-day we give God thanks for the Rice Institute of Liberal and Technical Learning. We praise the Giver of all good for the bright hopes which have gathered about these Dedication hours. We rejoice in the public spirit of the man whose name it bears, in his broad and generous views, his insight into our common needs, his prevision of the dawning greatness of this State, his love of the fair Southland. We bless God for the inspiration of a great and splendid purpose in the soul of the founder of this University; not less do we praise Him for the men who have given themselves with patient, self-denying, patriotic toil to the achievement of that purpose. Some have passed into the Unseen: some are with us to-day. One sows: another reaps: God be praised, Sower and Reaper rejoice together!

In the Rice Institute of Liberal and Technical Learning the seeing eye perceives an incarnation of constructive energy. From its halls and laboratories shall go forth men and women who are men and women indeed, trained,

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equipped, fearless, aspiring, self-reliant, faithful to conscience and to God—the men and women for whom creation waits! Producing such streams of redemptive, life-giving power, the Rice Institute shall make for the worth and wealth, the health and happiness, of this old world. And happiness is a moral asset, never doubt it. Diffused amongst the masses of the people, it is an asset of incalculable value in the life of a nation. It is hungry men who make revolutions. It is what a British journalist has called “a mighty mob of famished, diseased, and miserable Helots” who menace the security of life and property in the midst of a wealthy civilization. Happy men and women are under no temptation to become anarchists. A honeymooning couple are in no mood to throw dynamite bombs at the palaces of the rich. Education, all the world over, in all the worlds there are and in all ages, is emancipation. It manumits and it edifies. First it frees the slave; then it builds the man. Capacity and culture—skill for the hand and sight for the soul—to open to the individual, man or woman, a means of living and the meaning of life—why, this is patriotism not less noble and ennobling than that of the heroic men whose praises our Laureate hymned yesterday, who

*saw the many-million-acred land,  
Won from the desert by their hand,  
Swiftly among the nations rise,—  
Texas a sovereign State,  
And on her brow a star!*

It is poverty, stupidity, ignorance, which do the devil's work. The world is cursed by ignorance and darkness. It will be blessed by knowledge and light. “Let there be light!”—it is the creative fiat. It thunders down the ages from the



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dawning of the first morning of the world. And Jesus said, "Give them to eat!"

When with prayer and praise and in communion with the Highest we dedicate this institution to the advancement of Letters, Science, and Art, we dedicate it to the making of men and the making of nations. We dedicate it to America! It is our contribution to the stability of the social order, to the permanence of American institutions, to the propagation of the principles for which America stands in our modern world, to the perpetuation of the forces which called her into being and by which she lives. This is our gift to the greatness of our land.

For the forms of democracy are precisely those through which corruption most easily works if the spirit of democracy be lacking. What forces inhere in law and constitution and in the administration of law which may not be blown to the four winds of heaven upon the breath of some demagogue, drunk with the lust of place and power, most ignorant of what he 's most assured of, and like an angry ape playing such fantastic tricks before high heaven as make angels weep? This country was brought to birth under compulsion of the ideal. Heroes who poured their blood out for the truth, women whose hearts bled, martyrs all unknown, gave birth to our country and to its liberties. Its greatness goes back to the visionary and the seer; to the Jesuit missionary marching from the Atlantic to the Mississippi, to the Pilgrim and the Puritan of New England, the Lutherans of Pennsylvania, the Moravian missionaries of Ohio, and all the countless hosts of the obscure, the silent, and the dead who, living, believed in God and His goodness, and followed the gleam. What is to preserve in our modern life this ancient vigor of the spirit? What is to keep the soul of the nation alive?



## BOOK OF THE OPENING

On what grounds do you believe that this Republic will endure? No republic has yet endured as monarchies have done. Fifty years ago some of the most thoughtful minds in Europe were satisfied that this democracy could not last. During the Civil War the Prince Consort, Queen Victoria's husband, said, with a sort of sardonic satisfaction, "Republican institutions are on their trial." From that trial republican institutions emerged triumphant. You believe that the noonday splendor of this land will outshine the golden glory of its dawn. Whittier declared that the sons and daughters of the Pioneer should

*Make the people's council hall  
As lasting as the pyramids.*

On what ground does this conviction rest? But on what grounds does your belief rest? Why should this Republic endure?

On the side of a current controversy it is glibly asserted that in the last analysis a State rests on force. The opponents of a popular movement go on repeating this dictum as though it were an oracle from heaven. A State rests on nothing of the kind. And force—by which is meant physical force—cannot keep a nation strong. Force could not save the Roman Republic. Rome possessed the finest army that has ever existed on the face of the earth. As a fighting machine it had attained unto perfection. And the Roman Republic failed. To-day Sir Edward Grey, Secretary of State for Foreign Affairs in King George's cabinet, has warned the British Parliament and the British people that if the insane rivalry of the nations in the matter of military and naval strength be continued, sooner or later it will submerge civilization itself.

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The State does not rest on force. It rests upon confidence—a vastly different thing. The basis of our modern society is confidence in one another. You who know a thousand times more about it than a preacher possibly can, let your imagination play for a moment about the vast, far-reaching, apparently illimitable ramifications of commerce made possible between man and man. How much business did you do last year, and how much are you hoping to do next, upon guarantees not very much stronger than the word of a man of whom you know little, and the honor of corporations the individual members of which you do not know at all? The State rests upon confidence in the social order; upon our common trust in justice and in the administration of justice, in law and the sanctity of law. And if the objector says, "Yes; upon the knowledge that force can be used to secure the due observance of law," the answer is easy: "You have not carried your analysis far enough." Our confidence is not grounded in the conviction that the State can control and direct physical force, but in the conviction that the force of the State will in the long run be controlled and directed by wise and good ends. That is to say, the strength of states is in the fundamental rightness of our human nature and our undefined belief that the mass of mankind would rather do right than wrong. The material wealth of cities, the integrity of states, the happiness of kingdoms, the greatness of a republic, alike go back to this, to the number of good men and women they can produce. All creation—all creation we know, Houston, Texas, the South, America, our modern civilization—gazing eagerly as if with outstretched neck, is waiting and longing to see the manifestation of the sons of God.

We have felt the lack of this driving power in the machinery of our social and political life. We have missed the note

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of moral enthusiasm. The touch of a high spirit upon human affairs has been wanting. We seek the compulsion of commanding genius and character. Such a voice as that which once from Gettysburg, all fragrant with the memories of a nation's dead, shook the civilized world, is heard no more. Our big men are not big enough. Our leaders are too far in the rear of those they lead! We are ready to cry out again with the poet—prophet of two democracies:

*O for an hour of that undaunted stock  
That went with Vane and Sydney to the block!  
O for a whiff of Naseby, that would sweep,  
With its stern Puritan besom, all this chaff  
From the Lord's threshing-floor!*

For our conviction is that deep down in the hearts of the people there is a capacity for being led; that the people who are being led wrong could be led right; that however corrupt interests deceive, fool, and use the people, there is still that in a nation which might be called the soul of a people; and a soul which would wake at the call of a son of God. *Men* are there, but *Man* is missing. And like our wild-eyed Hosea Biglow, with his tongue of truth and heart of flame, we feel—

*More men? More man? It's there we fail;  
Weak plans grow weaker yit by length'nin':  
Wut use in addin' to the tail,  
When it's the head's in need o' strength'nin'?*

*We wanted one that felt all Chief  
From roots of hair to sole of stockin',  
Square sot with thousan'-ton belief  
In him and us, ef earth went rockin'!*



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We are waiting for this Man, with the thousand-ton belief in himself and in us, in Righteousness and God, who will give expression in consecrated and consecrating action to the social aspirations of a million hearts. We are waiting, in the high places of the land, for the sons of God.

That is not all. Let us come to something even nearer to hand. Upon the work of this institution and of institutions like this depends entirely the question whether our amazing material resources, our ingenuity, our inventiveness, our science and skill, shall prove a blessing or a curse. A person or a community may find the disadvantage of possessing so many advantages. We may be ruined by our prosperity. We glory in the best equipment which skill and science can devise; but there is not one thoughtful person here who has not known individuals who would have been better equipped for their work if they had not been equipped so well! One is haunted by the fear that in our day and country we are not producing results commensurate with our efforts. In proportion to the extraordinary increase of our resources, are we doing the good in the world we ought to do? In the world of art and science are we, with all our wealth of training and equipment, doing relatively greater work and better work than, let us say, George Stephenson, the inventor of the locomotive, when he taught himself arithmetic on the sides of colliery wagons, or Wilkie when he learned painting with a piece of chalk and a barn door, or West when he made his first brushes out of the cat's tail; than Watt, the inventor of the steam-engine, when he made his first model out of an old syringe; Humphry Davy, of safety-lamp fame, when he extemporized his scientific appliances from kitchen pots and pans; and Faraday, described by Sir William Ramsay last Friday as one of the most brilliant physicists and most daring experimenters of the nineteenth cen-



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ture, when he made his from glass bottles; or better work and greater than when Elihu Burritt mastered eighteen ancient and modern languages while shoeing horses at the village forge?

We are doing better and greater work, you are confident. And you name Mr. Edison and Signor Marconi. But, relatively to the wealth of our resources, is the result all it should be?

In the world of moral effort are you quite so confident? Stephen, the first Christian martyr, John Ruskin reminds us, did not get bishop's pay for that long sermon of his to the Pharisees. He only got stones. And Paul had no cathedral called by his name from which to preach his Gospel to the Roman world. When Augustine and his monks landed at Ebbsfleet and met the English king between that place and Canterbury, and declared the good news of Jesus to him, there was no missionary society and missionary press behind him. When the famous few met in a house at Kettering to win heathenism for Christ, the first collection was sixty-six dollars. Do you not think that we ought to do vastly more with our wealth and numbers than men did who were few and poor? Yet are we in the way of accomplishing more for the age we live in and for ages to come than Stephen did for the Jewish world, Paul for the Roman world, Augustine and his monks for the English world, and Fuller Pearce and Ryland for the world of the distant East?

We are not gaining all we ought to gain from the resources that are ours. Why? We leave the work to the machinery, when we ought to do it ourselves. This nation has developed a capacity for organization which is as unmistakably an inspiration of genius as the sculpture of Pheidias or the philosophy of Plato. The art of the Greek, the law of the Roman, the Hebrew passion for righteousness,

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the genius of the English for colonization, is not more characteristic nor more significant in the evolution of the race than the genius of the American people for organization. But such high and notable qualities have their natural defects. In this country we first make the machine, and then we bow down and worship it. We kneel and say our prayer to it: "Almighty and everlasting Machine, we beseech thee to roll over us, crush down our insurgent will, and grind down our souls to a pale unanimity!" But neither an individual nor a nation can be better than the gods it worships. If we first make our gods and then worship them, we end by becoming like them. We worship the machine—and we become machines! We have lived to see the apotheosis of the filing cabinet. When Gambetta was praised by a friend for what was perhaps the greatest speech of his life he said, "For seven years I have wanted to make that speech. I have had it here (the heart), but I have not had it here (the head)!" With us, he would only have had to look under A B C, or perhaps under X Y Z, and he would have found it all in the card index!

Our religious work is hag-ridden by this superstition of the machine. The worst speech I have heard in more than five years of residence in this country—always excepting my own, but those I forget—was on "The Standardized Church." Every Church was to be raised up and leveled down and sawn off lengthwise and chopped across and planed superficially to a standard which existed in the machine-made mind of the standardizer. Somewhere in the broad heavens, he seemed to think, there is an everlasting stencil, and with every sweep of the cosmic brush a million souls are produced, all made to measure! The gifted organizer wears himself to a shadow in his determination to standardize the world; and one prays for him the cure which

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William III, king of England, desired for the victim of a contemporary superstition. He was the last king of England who practised what was known as "touching for the king's evil." When kings ruled by divine right—what Byron called "the right divine of kings to govern wrong"—it was believed that the touch of one of them would cure a certain disease. They brought a sick man to bluff William; he laid his hand on the sick man's head and said, "May the Lord give you better health and more sense!" But we go on discussing methods—methods—methods!—methods of Sunday-school work, of Church work, of Missionary work—the underlying assumption being that there is one correct, complete, absolute, and universal method, and if only we could find it the work would get done of itself! I sat in a Missionary Conference where godly old women of both sexes discussed "methods." And a missionary just home from the Congo whispered to me, "I have been flat on my back while a naked savage about six feet six inches high, and as tall across, had his foot on my chest and his spear at my throat. What sort of a missionary method ought I to have used then?" To be sure! There are just as many methods as there are men and women. There are just as many good methods as there are wise and good men and women. There are just as many bad methods as there are foolish and lazy men and women!

Henry Ward Beecher once went through a factory equipped with the most perfect machines produced in his day. He gazed on them with admiration, and after a long and lingering gaze he said, "They look intelligent; I think they ought to vote." One has heard something somewhere about the machine voting, but that is neither here nor there! A machine may look intelligent, but "intelligent" is precisely the thing which it is not. All your machinery needs intelli-



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gent men and women to work it. Organization is a necessity; but there is danger even in a necessity. The danger is that we leave the organization to do what can be done only by a living spirit. It is the tendency of all human organizations to stifle individuality. Let the organization follow its own tendency and it droops and dies. It is for the individual to assert himself within the organization and, if need be, against it. By so doing he serves its interest and saves its life. Force and Fire brought the organization to birth—Force of Will and Fire of Devotion. By Force and Fire alone can it be fed and nourished into vigorous life—Force of Character and Fire of Love. The organization is a magnificent piece of machinery. But no mechanical means at present known to mortals will generate energy to set it working and keep it going. Human heart-beats must supply the driving power. The Apostle Paul is right: we are waiting for the sons of God.

“The Rice Institute of Liberal and Technical Learning”—is it so the name of our institution runs? “Liberal and Technical Learning”: what I have lately called “Skill of hand and sight of soul”—it is a superb challenge to brain and heart. It was expounded yesterday by the President in a speech entirely noble, the chaste language worthy of his lofty theme. I will not go over the ground again, and do badly what Dr. Lovett did so well. But let me set his conception, which is my own, in the light of religion, and test it by its proved capacity to satisfy our human needs.

In the world of moral effort we meet the Idealist whose sublime head strikes the stars—and who tramples human hearts beneath his feet. He lifts up his eyes above the mountains, and he does not know of any healing ministry for the devil-haunted child in the crowded street. The Corn-law rhymers in England more than sixty years ago described



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a type of philanthropist with whom our generation is scarcely less familiar :

*Their noble souls have telescopic eyes  
Which see the faintest speck of distant pain;  
While at their feet a world of agonies,  
Unseen, unheard, unheeded, writhes in pain.*

With better intentions and purer life, the Idealist may yet fritter away his strength in endeavor as futile.

But in the world of moral effort we still meet more often the person who thinks himself practical and takes pride from his belief. He will not look to the far-off interest of tears; no, not he! He is not going to sow the seed and wait for after ages to reap the harvest. He tells you that he wants results. He wants crops. He wants to get there, and to get there quickly. He is the get-rich-quick man of the world of altruism, philanthropy, and reform. If he is called to preside over the councils of a great nation, the best you can say of him is that he is an extempore statesman, a statesman trying to set the world right by rule of thumb, profoundly ignorant of the nature of the forces with which he is playing, and proudly indifferent to the age-long, world-wide consequences of his acts. This is the best you can say of him—if you are a patient and sweet-natured person; but if you are not—why, you say something worse. A man may mean well. But men and institutions and nations need to avoid the devil's short-cuts to a desired end.

What then? The Idealist may be a failure and the practical man a fool. What we want is the practical man who lives by the power of the ideal. Often he has to work almost in the dark; slowly he gropes through the broadening dawn. But he sees the light and whence it flows. And he

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knows that each steady step is toward the rising sun. He has certain principles. They may be few. But they are sufficient. They are clear-cut, firm-rooted, four-square to all the winds that blow; and they are safe. He knows, as the world knows, that this same world is not ready to apply those principles immediately and universally to the whole round of human conduct. But he knows, what the world does not, that these are the principles by which alone men live, and that the nations which will not adopt them God sends down to destruction. He, too, is an Idealist of the purest type; but he will labor night and day to apply his principles where and when he can, winning from the unprincipled, anarchic world here a little, there a little, and every little looking to the one far-off divine event to which the whole creation moves. Do you tell me that he is living in each little act, each little step, each little gain of justice upon injustice, each day's work well done? I tell you, No! He is living in the true, the good, and the beautiful. He sees life, and sees it whole. He is living in the march of deathless generations. He is living in the sweep of the ages. He is living in the triumph of immortal principle. He may tell you, with his rough practical senses alert and his ear to the ground, that he has only to live one day at a time; but he knows, though he keeps the knowledge to himself, that really and truly he is living in eternity—living, that is to say, in principles older than protoplasm, causes that complete and crown the centuries, and movements that roll back the tide of guilt and sin.

Yesterday, with joy and deep thanksgiving, the Rice Institute was dedicated to the purpose set forth in its Founder's will, in the presence of those whom Dr. van Dyke called the

*Honoured and welcome guests from the elder nations,  
Princes of science and arts and letters.*

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Now we, the people of Houston and of Texas, rise and solemnly link ourselves to that consecrating act. We dedicate this institution to the advancement of Letters, Science, and Art, to the service of the imperial commonwealth of Texas; to the material and moral progress of the Southland; to the cause of human improvement over all the earth; and to the greater glory of God. Upon President and Trustees and Faculty, upon other great-hearted men and women who shall bring to the aid of this institution, now and in the coming days, gifts of heart and brain and hand, we invoke the benediction of the Most High. And earnestly we pray that in the years to come the sons and daughters of the Rice Institute may bring honor to its name; that their children and their children's children may rise up to call it blessed; that they may show themselves to be the Sons of God for whose coming Creation waits and longs, co-operating with the world's eternal purposes and preparing for a redeemed humanity a renovated earth.

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## Hymn-Nearer, my God, to Thee

1. Near - er, my God, to Thee, Near - er to Thee, E'en though it

be a cross, That rais-eth me; Still all my song shall be, Near-er, my

God, to Thee, Near-er, my God, to Thee, Near-er to Thee. A-men.

2. Though like a wanderer,  
Weary and lone,  
Darkness comes over me,  
My rest a stone;  
Yet in my dreams I'd be  
Nearer, my God, to Thee,  
Nearer, my God, to Thee,  
Nearer to Thee.

3. There let my way appear  
Steps unto heaven;  
All that Thou sendest me  
In mercy given;  
Angels to beckon me  
Nearer, my God, to Thee,  
Nearer, my God, to Thee,  
Nearer to Thee.

4. Then with my waking thoughts  
Bright with Thy praise,  
Out of my stony griefs  
Altars I'll raise;  
So by my woes to be  
Nearer, my God, to Thee,  
Nearer, my God, to Thee,  
Nearer to Thee.

5. Or if on joyful wing,  
Cleaving the sky,  
Sun, moon, and stars forgot,  
Upward I fly,  
Still all my song shall be  
Nearer, my God, to Thee,  
Nearer, my God, to Thee,  
Nearer to Thee.

Mrs. Sarah Adams, 1841



# BOOK OF THE OPENING

## Hymn—America

Carey

Our fathers' God! to Thee, Author of lib - er - ty, To Thee we sing:

Long may our land be bright With free-dom's ho - ly light;

Pro - tect us — by Thy might, Great God, our King! A - men.

2. Bless Thou our native land!  
Firm may she ever stand,  
Through storm and night;  
When the wild tempests rave,  
Ruler of wind and wave,  
Do Thou our country save  
By Thy great might.
3. For her our prayer shall rise  
To God, above the skies;  
On Him we wait;  
Thou Who art ever nigh,  
Guarding with watchful eye,  
To Thee aloud we cry,  
God save the state!

Stanza 1, Rev. S. F. Smith, 1832.

Stanza 2, Rev. C. T. Brooks, 1835

Stanza 3, Rev. J. S. Dwight, 1844.

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### BENEDICTION

REV. CHARLES FREDERIC AKED

The Lord bless you and keep you; the Lord cause His face to shine upon you and be gracious unto you; the Lord lift up upon you the light of His countenance and give you peace. Amen.





















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